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Diary) 25/- Single Copies 9d.

1741



RED

BRAND

DIAMOND

*Two Centuries of Progress*

1941

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A.B.C. FIFTH EDITION

15th March, 1941.

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advertising has increased the sales. Dealers are invited to link up with this campaign by showing the Fit and Hysteria Powders display material, and copies of the free booklet "Your Dog and Cat in Wartime"—free on request to Southport.



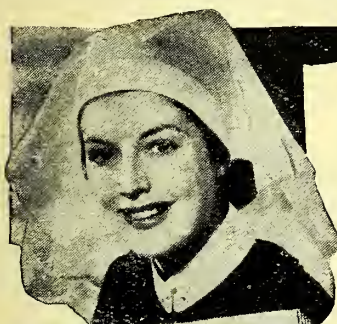
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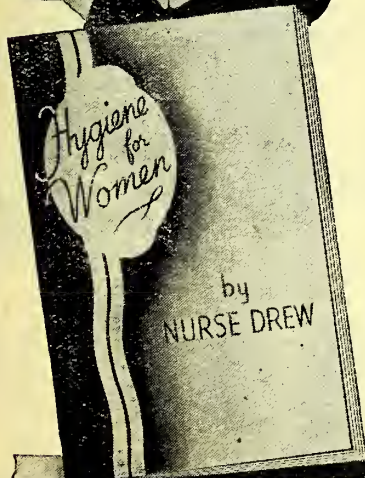
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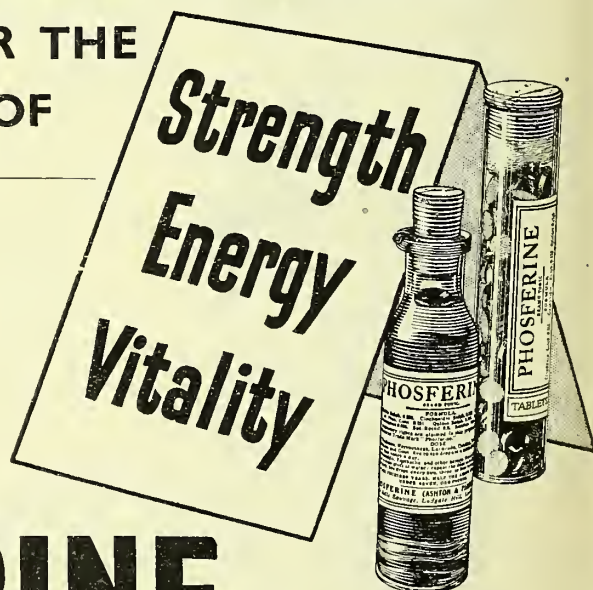
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of Progress*

1941





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We extend to all our sincere thanks for the unfailing confidence and friendship which you have given to us through the years, and assure you that in the happier times to come we shall, by the superlative quality of our products, endeavour to merit your continued and increasing support.

Yours sincerely,

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Governing Director.

*Harold Honsley*

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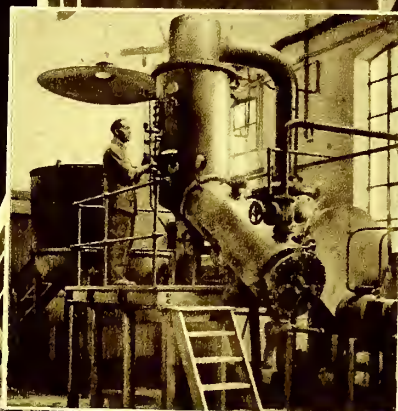
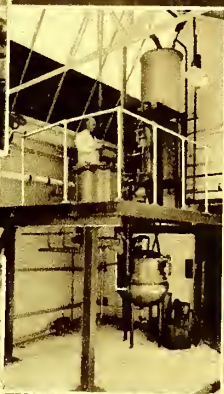
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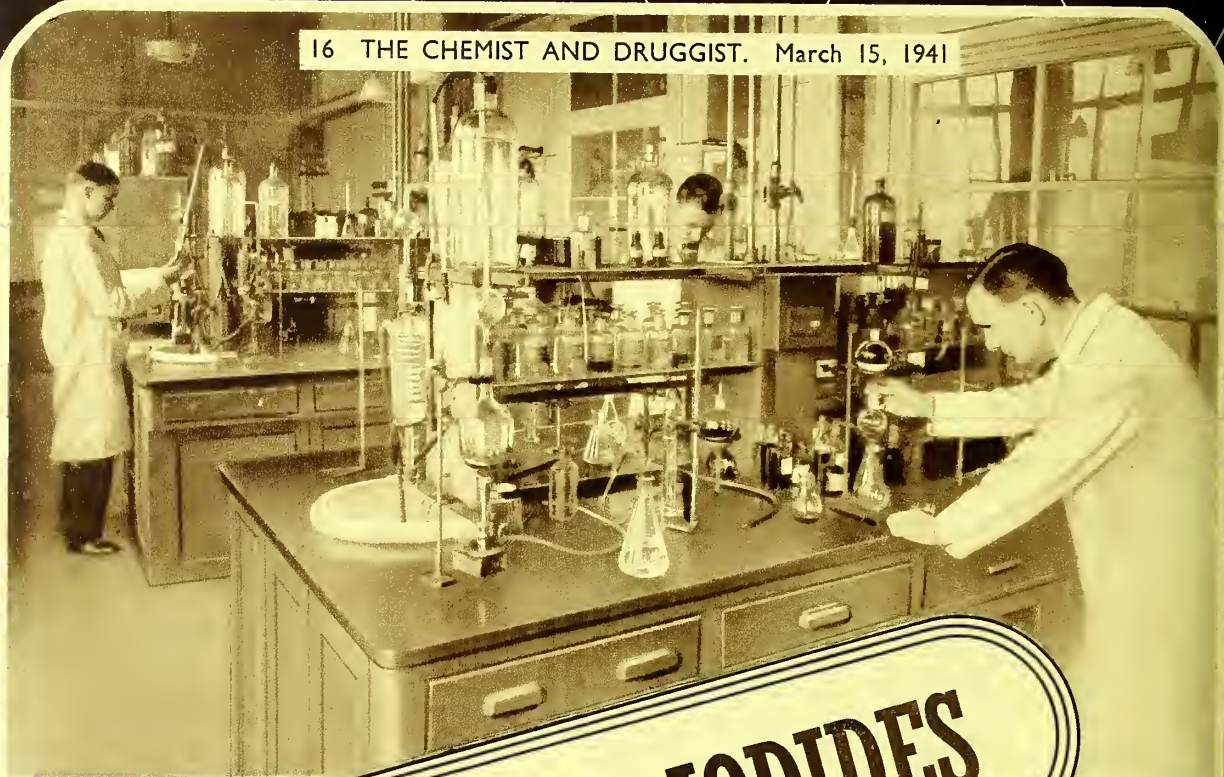
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# VEGETABLE...



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**GREATER**  
**THAN EVER IS THE**  
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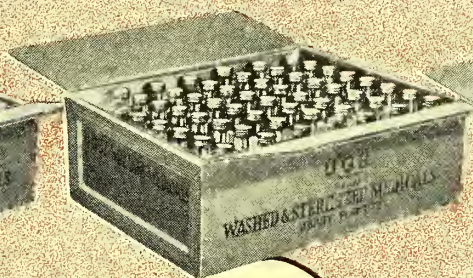
PERFECTED  
**WHITE**  
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**MEDICAL BOTTLES**



Cork-Mouth.  
Photograph of  
actual package  
of Cork-mouth  
bottles with  
cover removed



White Enameled  
Metal Screw-Cap.  
Photograph of  
actual package of  
screw-cap bottles  
with the cover  
removed.



White Korka-  
lite Moulded Cap  
Photo of actual  
package of bottles  
with White Kor-  
kalite Moulded  
Caps.

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THESE HONES ARE MADE IN GLASS  
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Make sure your stocks are up to date.

Not affected by the limitation of supplies order.

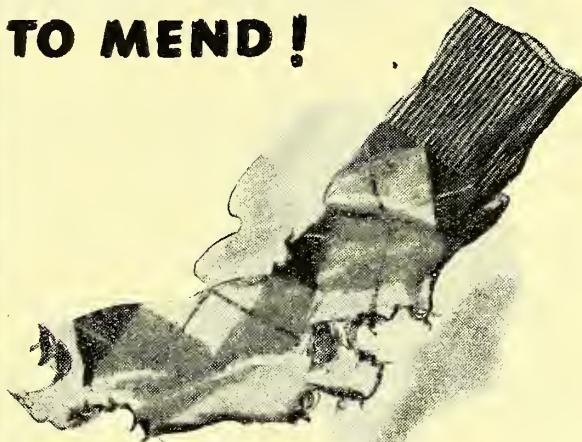
PARKER BELMONT & CO. Hellidon House, Hellidon, Nr. Daventry, Northants.

## Clynol Berries for Obesity

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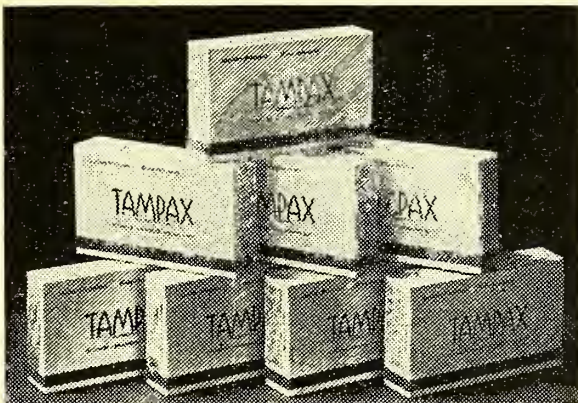
Trade 32/- per dozen.

## IT'S NEVER TOO LATE TO MEND!



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If you've been missing your quota of these national sales start now to collect the profit that's waiting for you. Tampax has transformed turnover for chemists all over the country; it can make all the difference to yours too. The present emergency is a special opportunity to build up a new and lasting demand. With women so widely mobilised for active service, Tampax is more simple to introduce and to sell than ever before. And Tampax, once sold, introduces a regular repeating demand.



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★ PACKETS OF 10	Wholesale 13/6 DOZ.	Retail 1/6 PACKET
★ PACKETS OF 6	Wholesale 9/- DOZ.	Retail 1/- PACKET
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Manufactured in England by Tampax Ltd., Belvue Rd., Northolt, Middx.  
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Write for P.A.T.A. Terms  
from all Wholesale Houses

- **NOURISHES THE ROOTS**
- **PROMOTES THE GROWTH**
- **GETS RID OF DANDRUFF**
- **PERFECT DAILY DRESSING**
- **ADDS LIFE TO DULL HAIR**

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ALSO OUR NEW PRODUCT—LANALOL SHAMPOO, the Liquid Soap de Luxe, which has proved an instant success, 2/6 bottle. Exclusive of Purchase Tax.



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**LANALOL HAIR FOOD**  
(SOLIDIFIED)

LARGE JAR 2/6

Exclusive of Purchase Tax

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OF ALL DESCRIPTIONS

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**The Volatile Vasoconstrictor**

*in New Type Inhaler*

**—with only ONE cap to remove**

"It is a modern 'talisman' against nasal infection!" That is how one medical man described the Karsodrine Inhaler. A shade over-enthusiastic? Possibly!—but not really so very far from the truth. The Karsodrine Inhaler is a highly active local volatile vasoconstrictor and anodyne. It affords immediate and prolonged contraction of congested nasal mucosa with local analgesic action. Packed in an hygienic moulded plastic inhaler, with no metal parts and only one cap to remove. A British production throughout and obtainable from all Chemists at the reasonable price of 1/6d. per inhaler, including purchase tax.



*Each Karsodrine Inhaler contains*

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Ol. Cedri Lig. 0.005 gm.; Menthol 0.049 gm.;  
Ol. Eucalypt. 0.089 gm.*

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*even on small quantities when ordered  
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*For Trade Terms kindly apply to*

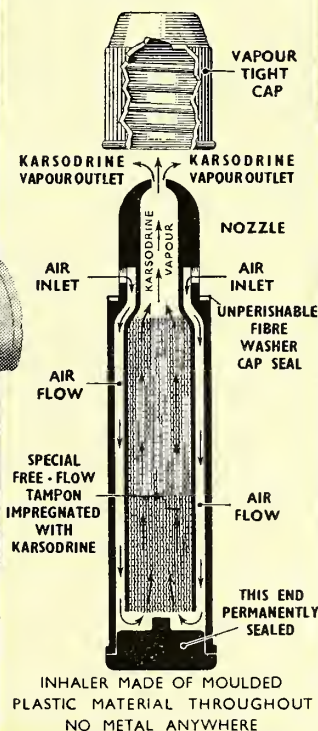
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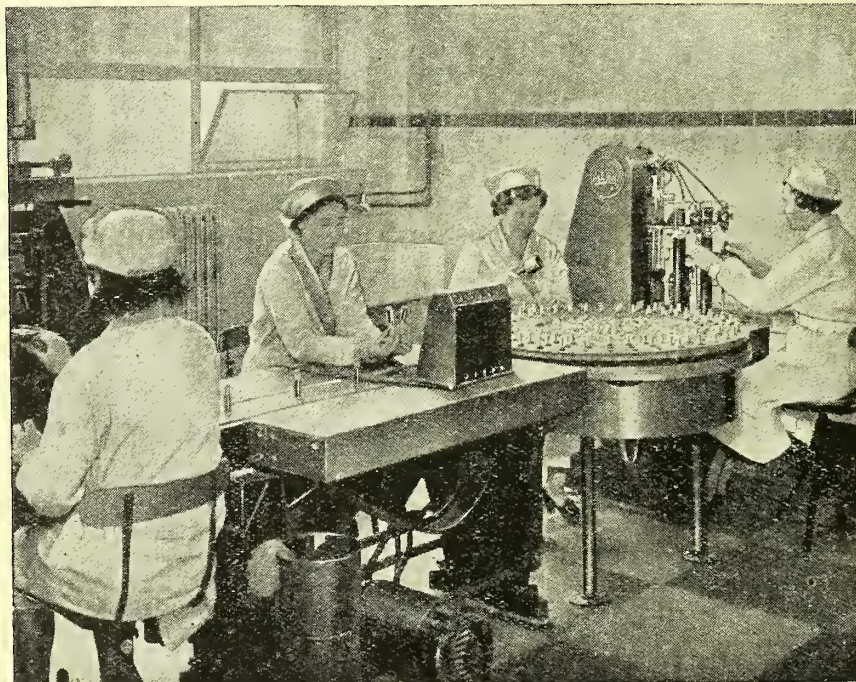
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In these days of restricted supplies, you can profitably make up under your own label many kinds of creams, lotions and other emulsified preparations.

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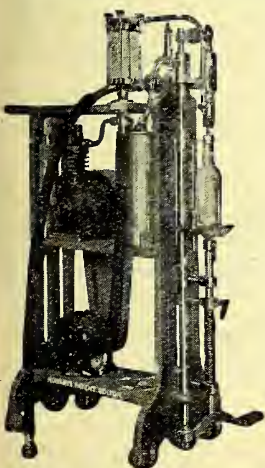


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Fills all sizes from  
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**Clean and Rapid  
No Over Filling  
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### Roberts' Patent Filling Machine

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AN ELECTRIC LAMP as elegant as it is practical. Without springs or ball joints, it is instantly adjusted and remains in any position to give all the light just where it's needed. An engineering job built for a lifetime's use. A tasteful addition to any room, office or works.

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GLANOID CALF'S FOOT JELLY**

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AMPOULES, TABLETS, LIQUIDS  
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Chemists are telling us that Karmoid is on the up-grade.

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Have a look over your stock of Karmoid. You might be wise to carry a few more in these times of quite inescapable delays. You never know.

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On and from Monday, March 10th, prices for Robinson's 'Patent' Groats are advanced. The new consumer prices are:

1-lb. size **1/6** per tin

$\frac{1}{2}$ -lb. „ **9½d.** „

$\frac{1}{4}$ -lb. „ **5d.** „

This alteration restores Groats to the same price level as Robinson's 'Patent' Barley, and trade prices can be had on application to:

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NORWICH

# QUINOLOR

Brand Compound Ointment

# SQUIBB

is now being manufactured in England by the Distributors  
so that supplies of this valuable preparation are assured.  
"QUINOLOR" will be issued as follows:

Size	Retail	Trade	Tax
1 oz.	2/3	18/-	3/-
2 oz.	4/-	32/-	5/4
16 oz.	23/9	190/1½	31/8¼

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RELY ON « PROPHICS » A MOST THOROUGHLY TESTED  
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GOLD DE LUXE	. 33/-
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GOLD SINGLES	. 36/-
GREY FLAT 3's	. 28/6
GREY SINGLES	. 30/-
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FROM YOUR WHOLESALER  
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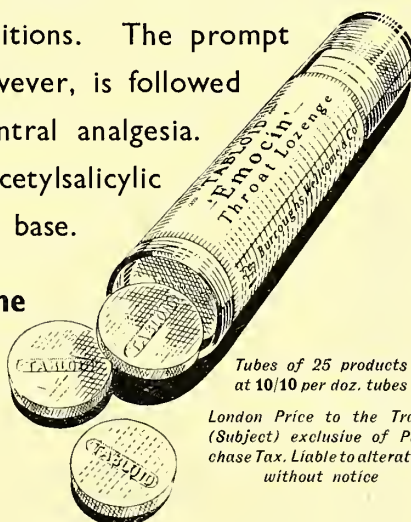


***When  
Sore Throats  
are  
Prevalent***

**'TABLOID' 'EMOCIN'**  
TRADE MARK BRAND TRADE MARK  
**THROAT LOZENGE**

Offers a new and satisfactory means of obtaining comfort and relief. Local application of acetylsalicylic acid to the throat is well known to have effect in irritative or inflammatory conditions. The prompt analgesic effect of 'TABLOID' 'EMOCIN,' however, is followed by more prolonged action resulting from central analgesia. Each lozenge contains 2 grains of 'Empirin' Acetylsalicylic Acid in a pleasantly flavoured demulcent base.

**Stock and display 'TABLOID' 'EMOCIN' the  
throat lozenge with both rapid and lasting  
effect.**



*Tubes of 25 products  
at 10/10 per doz. tubes*

*London Price to the Trade  
(Subject) exclusive of Pur-  
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without notice*



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R. HENDRIE & CO. · ESTAB. 1760 · MADDOCKS & CO.

## FINE PRODUCTS FOR THE PHARMACY!

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Bulk, Packed and Speciality  
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Cold Cure; Influenza  
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### LOZENGES

Iodized Throat; 'I-O-Mints'  
Bismuth Co. B.P.; Antacid,  
Linseed, Liquorice and Chlorodyne  
Analgesic Throat

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'Pulvellæ' and 'Chocellæ'  
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Glycerine of Thymol Comp.  
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Glycerine, Lemon and Honey  
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## NEWS OF THE WEEK

**Milk Powder Prices.**—Under the Milk Powder (Prescribed Prices) Order, S.R. & O., 1941, No. 259, prices given at which milk powder may be sold; the quantities concerned range from 10 tons and over to 50 lb. Copies of the Order may be obtained from H.M. Stationery Office, price 2d.

**Use of Bran for Rat Poison.**—In view of the necessity of trying rats and the difficulty of making suitable bait without bran, the Ministry of Food has authorised the sale, chase, and use of bran in the preparation of bait. The authority is given in a General Licence under the Milled Eaten Substances (Restriction) Order, 1940. This licence does not permit the use of flour, fine wheatfeed or germ, and anyone wishing to use these substances must first obtain a licence from the Ministry.

**Relaxation of Export Control.**—Under a Board of Trade Order, which came into force on March 6, certain classes of goods, which require licences for export to certain specified destinations ("C" destinations in the export control list) will no longer require licences for export to Iceland and the Faroe Islands. Export licences will still be required for other goods in the export control list exported to these destinations. The Order (S.R. & O., 1941, No. 282), also makes certain relaxations in the list of goods requiring export licences.

**Sulphuric Acid.**—Under S.R. & O., 1941, No. 274, any person in the United Kingdom who produces after March 10, 1941, any sulphuric acid or fuming sulphuric acid is required to pay a sulphuric acid charge on either of these products calculated at the rate of 6s. 4d. per ton of 70 per cent. acid, i.e. at the rate of 6s. 4d. per 1,280 lb. avoirdupois of the acid contained in the acid. S.R. & O., 1941, No. 275, revokes previous direction under the Control of Sulphuric Acid (No. 2) Order, 1940, and gives the new increased prices at which various grades of acid may be sold. Copies of either of these Orders may be obtained from H.M. Stationery Office, price 2d.

**Position of Bulgaria.**—H.M. Government have decided that they must now regard Bulgaria as territory under enemy occupation. From March 5, therefore, Bulgaria will be regarded as an enemy destination for contraband purposes and all goods of Bulgarian origin or ownership will be liable to seizure. The Board of Trade announce that Bulgaria is enemy territory for the purposes of Trading with the Enemy Act, 1914. It is accordingly a punishable offence to have commercial, financial or other intercourse or dealings with or for the benefit of any person in that territory. Inquiries should be addressed to the Trading with the Enemy Branch, 24 Kingsway, London, W.C.2.

**British Disinfectant Manufacturers' Association.**—The following officers were appointed at the annual meeting of the Association on February 18: *Chairman*, Mr. H. M. Spackman (Jeyes' Sanitary Compounds Co., Ltd.); *Vice-chairman*, Mr. G. Gibb (William Pearson, Ltd.); *Treasurer*, Mr. R. A. Burt (Burt, Boulton & Haywood, Ltd.); *Auditor*, Mr. R. G. Chem (Jeyes' Sanitary Compounds Co., Ltd.); *Executive Committee* (elected members), Messrs. S. Bryan (Killgerm Co., Ltd.); N. Betteridge (Cooper, McDougall & Robertson, Ltd.); D. Daysh (Monsanto Chemicals, Ltd.); H. W. Mackrill (All Chemical Works, Ltd.); A. S. Roxburgh (Roxburgh, Logan & Co., Ltd.); H. A. Smith (Lawes Chemical Co., Ltd.); (opted members) Messrs. L. Black (Lysol, Ltd.); S. C. Jager (William Pearson, Ltd.); J. E. Wells (Sanitas Co., Ltd.).

**Shortage of Drugs Order.**—An Order (S.R. & O., 1941 No. 273) dated February 24, has been made by the Home Secretary, the Secretary of State for Scotland and the Minister of Health under which certain sodium salts may replace the corresponding potassium salts in prescriptions. The order reads as follows:—

1. (1) Subject to the provisions of this order, any person dispensing or supplying medicines on prescriptions requiring the use or supply of a quantity of a substance set out in the first column of the Schedule to this order (in this order referred to as a "scarce substance"), may use or supply the corresponding quantity of the authorised alternative: Provided that, where a prescription expressly directs in manner prescribed by this order that no other substance is to be used or supplied in lieu of the scarce substance, nothing in this order shall affect the direction.

(2) Any such direction shall be given by writing against the scarce substance on the prescription the letters "N.A." or words indicating that no other substance is to be used or supplied in lieu of the scarce substance.

2. For the purposes of this order (a) the expression "authorised alternative" in relation to a scarce substance means the substance set out in relation to the scarce substance in the second column of the Schedule to this order; (b) equal quantities of a scarce substance and of the authorised alternative shall be deemed to correspond.

The Order also states that a draft has been submitted to the Medical Research Council, and the signatories are satisfied, after consultation with that Council, that the corresponding quantities of each such substance and of the authorised alternative have substantially the same therapeutic action. The following is the Schedule to the Order:—

### SCHEDULE

Scarce Substance	Authorised Alternative
Potassium bicarbonate	Sodium bicarbonate
Potassium bromide	Sodium bromide
Potassium citrate	Sodium citrate
Potassium iodide	Sodium iodide

**Purchase Tax.**—Notice No. 78 (Goods chargeable with Purchase Tax) issued by the Commissioners of Customs and Excise is being revised and reprinted, and copies of the new edition will shortly be sent to all registered traders. This will supersede Notice No. 78 dated September 1940 and other liability decisions issued subsequently. The decisions set out below, issued since the new Notice No. 78 was sent for printing, are not affected. Other changes have been made and traders who may be accountable for tax should give careful attention to the provisions of the new leaflet. Paragraphs 23, 24 and 25 in Notice No. 74 dated August 1940, concerning the determination of wholesale value, have been expanded and re-issued as a separate Notice No. 79. This notice will be sent to all registered traders when available.

**LIABILITY DECISIONS.**—The following decisions regarding the liability of tax of certain articles are published as supplementary to those already given in Notice No. 78 Class 22.—Sub-standard cinematograph films produced in quantity for general sale fall within Class 22 of the list of chargeable goods, and all copies of such films are therefore liable to tax. Any registered person making and selling cinematograph films will be accountable for tax, unless he can establish, in the case of any particular film, that no copies of the film are, or will be, available for general purchase. Films which will only be offered for hire by a recognised film library or other renter and will not be available on purchase, whether from that library or otherwise, are free of tax.



**Long Service Awards.**—Four employees of Beechams Pills, Ltd., St. Helens (Messrs. T. W. Mather, N. G. Briggs, J. T. Rigby, and T. Bennett), who had each completed fifty years' service, have been presented with long-service certificates and cheques by Mr. J. Stanley Holmes, M.P. (a director) on behalf of the firm.

**British Association of Chemists.**—At a recent meeting of the unemployment special purposes committee of the British Association of Chemists it was decided that the rate of unemployment insurance to members should be increased, as from March 1, from 17s. 6d. to £1 per week per unit.

**Warwickshire N.P.U. Branch.**—The Warwickshire Branch of the National Pharmaceutical Union met at Leamington, on January 30, when it was resolved that a letter of sympathy should be sent to the Coventry Branch for damage sustained in air raids. The secretary reported that, in response to a Branch appeal for donations to the N.P.U. war distress fund, a sum of £26 8s. had been collected. N.P.U. supplements for November and December, 1940, and January, 1941, were submitted and discussed.

**Pathologist's Address at Crosby.**—At the monthly scientific meeting of the Crosby Pharmacists' Association, on February 19, the president (Mr. H. A. Pringle) in the chair, Mr. H. Plevin (pathologist, Waterloo Hospital) gave an address on "The Clinical Laboratory." Mr. Plevin discussed the work of a clinical laboratory under the headings of (a) clinical pathology, (b) bacteriology and (c) bio-chemistry. Mr. Plevin described blood cells, types, changes and counting; he discussed morphology, stains, serological tests, sugar reactions and some cultural characteristics, and outlined some simple biological tests. He demonstrated under the microscope red and white blood cells, nucleated red cells and cells containing malarial parasites, and exhibited films showing *B. typhosus*, anthrax spores, cholera bacillus, *C. diphtheriae*, tubercle bacilli, streptococci and meningococci. Finally, Mr. Plevin asked pharmacists to use their influence to persuade people to become blood donors.

**Manchester Debates "Co-op" Amendment.**—The Manchester Pharmaceutical Association and Branch met on March 2 to discuss Clauses 8, 9 and 10 of the Pharmacy and Poisons Act, 1933, with particular reference to co-operative societies and departmental and chain stores. The president (Miss I. Roberts) was in the chair. Representatives attended from Ashton, Chadderton, Oldham, Stalybridge and Stockport. Mr. J. H. FRANKLIN (a member of the Society's Council) said the Home Office had declared that, if the Government had thought that the clauses would operate against co-operative societies, the clauses would never have been included in the Act. An agreement had been made in which the Society undertook not to take proceedings against the societies for selling drugs in their grocery departments unless a court decision was obtained proving that the clauses in the Act did apply to co-operative societies. After the Hygienic Stores case the agreement lapsed, and the Home Office suggested an amendment to the Act that would permit co-operative societies, under specified conditions, to sell drugs in their grocery departments, where the sale of drugs was subsidiary, without requiring the control of a pharmacist. This would place them in the same position as other grocers. A liaison committee of the Society and the N.P.U. considered the amendment provided a basis for negotiation and that this might lead to a satisfactory compromise. Mr. H. STEINMAN (chairman, N.P.U. Branch) joined issue with Mr. Franklin. He said that representatives of "big business" were watching the outcome of the present negotiations between the Society, the Home Office and the co-operative stores. So long as pharmacists continued meekly to accept the prostitution of their qualification by people who were interested in our profession only for purposes of financial gain, so long would they be confronted with situations like the present. Addressing a meeting in Manchester during the passage of the Bill, the late Mr. Simmons, then a member of Council, had said he saw in Section 9 the means to clear up a lot of troubles that had afflicted pharmacy during many years. At at least three conferences which he had attended in recent years resolutions had been approved urging the enforcement of Clauses 8, 9 and 10. Why, he asked, did the Society hold conferences if the Council ignored the resolutions passed at them? In the discussion that followed, many speakers took part, most of whom were against a policy of "appeasement." The following resolution was adopted: "That this meeting of Manchester and District chemists demands that the Society enforces Clauses 8, 9 and 10 of the Pharmacy and Poisons Act, 1933."

## IRELAND

**St. Joseph's Young Priests' Society.**—The annual meeting of the pharmacy branch of the St. Joseph's Young Priests' Society will be held at the headquarters of the Society, 23 Merrion Square, Dublin, at 3 p.m. on Sunday, March 23.

**Irish Drug Association.**—The officers and committee of the Association are as follows: *President*, Mr. P. F. McGrath; *Vice-President*, Mr. F. X. Meagher; *Committee*, Messrs. P. F. McGrath; P. A. Brady; D. J. Murphy; T. C. Scott; G. A. MacLean Lee; M. J. O'Rourke; Sir Thomas Robinson; F. X. Meagher; E. MacMahon; J. Duggan; L. G. Smith; D. Woulfe; J. Smith; J. J. Roche; R. B. Brown; Dr. J. A. Mitchell; G. O'Neill; A. R. Lester, Cork; J. K. Whelehan Mullingar; P. Liston, Limerick; P. Teehan, Kilkenny. *Ex-Officio Member*, The president of the Pharmaceutical Society of Ireland; *Treasurer*, Mr. G. A. MacLean Lee; *Organising Secretary*, Mr. Brendan R. Smith, Ph. C.; *General Secretary*, Mr. Robert J. Kidney. The Registered Offices are at 12-14 College Green, Dublin, C.1, Eire.

Local Associations affiliated to the Irish Drug Association with their secretaries, are as follows:—

**CORK EMPLOYERS' FEDERATION—CHEMISTS' BRANCH**, John Rearden, 17 South Mall, Cork.

**COUNTY KERRY CHEMISTS' ASSOCIATION**, P. J. Kennelly M.P.S.I., 6 Castle Street, Tralee, co. Kerry.

**KILLARNEY SECTION**, J. J. Sewell, M.P.S.I., Medical Hall Killarney.

**COUNTY WEXFORD FEDERATION OF PHARMACEUTICAL CHEMISTS AND DRUGGISTS**, W. F. Kirby, M.P.S.I., 43 North Main Street, Wexford.

**GALWAY PHARMACEUTICAL CHEMISTS' ASSOCIATION**, J. E. O'Donnell, Ph.C., Connaught Pharmacy, Connaught Buildings Galway.

**LIMERICK AND DISTRICT RETAIL CHEMISTS' ASSOCIATION**, P. Liston, M.P.S.I., 108 O'Connell Street, Limerick.

**MAYO PHARMACEUTICAL ASSOCIATION**, G. D. Golden M.P.S.I., Bridge Street, Westport, co. Mayo.

**MIDLAND DRUG FEDERATION**, Michael Bree, M.P.S.I., The Medical Hall, Abbeylax, Laoighis.

**NORTH LEINSTER DRUG FEDERATION—LOUTH SECTION**, A. Maher, M.P.S.I., 12 James Street, Drogheda, co. Louth.

**NORTH LEINSTER DRUG FEDERATION—CAYAN SECTION**, Hon. Secretary, J. Nicholson, M.P.S.I., The Medical Hall Clones, co. Monaghan.

**WATERFORD, KILKENNY AND SOUTH TIPPERARY DRUG ASSOCIATION**, W. A. Quirke, M.P.S.I., 53 O'Connell Street Clonmel, co. Tipperary.

**KILKENNY SECTION**, P. Teehan, M.P.S.I., 101 High Street, Kilkenny.

**WATERFORD SECTION**, L. Hutchinson, M.P.S.I., 6 Quay, Waterford; and E. M. O'Grady, M.P.S.I., Michael Street, Waterford.

**WESTMEATH PHARMACEUTICAL FEDERATION**, J. K. Whelehan M.P.S.I., 38 Earl Street, Mullingar, co. Westmeath.

## SCOTLAND

**Business Change.**—Miss Marion Gauld, M.P.S., has acquired the chemist's business known as "David Storrar, 10 Rosebery Terrace, Kirkcaldy, which she managed for the late Mr. J. G. Low for many years.

**Jubilee Celebrations.**—This year the town of Dollar Clackmannanshire, celebrates its jubilee. The first Provost was Mr. J. B. Henderson, M.P.S., whose son, Mr. William Henderson, is in business at Academy Street, Dollar, and was for some years a Bailie in the town.

**Complimentary Dinner.**—The Secretary of State for Scotland was among speakers at a complimentary dinner given on March 7, to Mr. Alexander M. Craig, who was cleared from the Aberdeen Burgh Insurance Committee from 1912 until his retirement this year.

**Dangerous Drugs Acts.**—During the year, the provisions of the Dangerous Drugs Acts and Regulations were strictly enforced, says the Chief Constable of Edinburgh, in his report for 1940. Seventeen retail chemists were cautioned verbally and seven by letter for contraventions of the Regulations while forty-one special reports were submitted to the Home Office regarding excessive purchases, etc., of dangerous drugs. Ten doctors, eleven chemists, ten private individuals, one public dispensary and one A.R.P. first aid post were involved. Three retail chemists were convicted for offences under the Acts and regulations.



## EMPIRE AND FOREIGN NEWS

**Western Hemisphere Quinine Production.**—The possibility of producing quinine in Porto Rico and other western-hemisphere countries has been investigated by the U.S. agricultural experiment station, Porto Rico. The station has now reared mature trees and is harvesting and assaying samples of bark. Specimens of *Cinchona ledgeriana* bark are understood to have yielded 8.5 per cent. of quinine as sulphate.

**U.S. Research on Vanilla Curing.**—Chemists in the U.S. Department of Agriculture have found that treatment with ethylene gas hastens curing of vanilla and improves the result. The Mexican method of curing—used since the days of the Aztecs, who “discovered” the plant—is to dry the pods or beans in the sun. The Bourbon process, as used in Madagascar and other French islands, which supply most of the world's vanilla, is to dip the beans into hot water. Both methods, with local ramifications, have been followed without important variations for many years. No vanillin exists in the green beans, but it develops during the curing. The U.S. workers have found that vanilla beans, treated with ethylene gas and hot water and dried in an electric oven, cure much more rapidly than with the old treatments. The typical “fruity” vanilla fragrance, however, develops only after long conditioning.

**Health Insurance in Canada.**—The executive committee of the Canadian Pharmaceutical Association decided on January 9 to set up a Dominion Health Insurance Committee. A fund of \$500 has been set aside for the initial work of the committee, which will commence by examining certain proposals put forward by Mr. V. E. Hessel, Okotoks, Alberta. Mr. Hessel takes the view that, whether justified or not, there is an ever-increasing demand by the public for social security, and that the Association should take steps to meet the demand. Among the suggestions he makes are that the Provincial Associations should co-operate with the C.P.A. by providing the necessary data on which to base a policy; that copies of existing agreements and of any new plans made, even though based on local conditions, should be submitted to a central committee of the C.P.A. for comparison with those in operation in other districts; that a central committee should be set up, to establish a sound basis for posting supplies, and to arrange for rebates of taxes on supplies used under any Government scheme.

## COMPANY NEWS

### P.C. means Private Company and R.O. Registered Office

**BRADLEY & CO. (MINERAL WATERS), LTD. (P.C.).**—Capital £1,000. Objects: To acquire the business of mineral water manufacturers carried on by Bradley & Co., at Marsden, Yorks. F. H. and May Russell, both of Rose Mead, Rose Hill, Marsden, and Dorothy S. Wood, 3 Park View, Manchester Road, Marsden, directors.

**HUGHES PHARMACY, LTD. (P.C.).**—Capital £100. Objects: To acquire and carry on chemists' and druggists' businesses situated at 606 Harrow Road, Paddington, London, W.10, and 67 Fernhead Road, Maida Hill, London, W.9. Edith M. Tiley, M.P.S., 606 Harrow Road, Paddington, London, W.10, and John W. Hitchcock (address not stated), directors. R.O.: 606 Harrow Road, Paddington, London, W.10.

**INSTITUTE OF HYDROPONICS, LTD. (P.C.).**—Capital £100. Objects: To carry on research in soilless cultivation and scientific horticulture, to manufacture chemicals and apparatus, etc. Arthur E. Gough, 1 The Driveway, Hill Rise, Cuffley, Herts; Alfred Wragge, Caldecot House, Goffs Oak, Herts; W. C. and Mrs. Gladys N. Russon (addresses not stated), directors. R.O.: 103 Cannon Street, London, E.C.4.

**RELEASE OF TRUSTEE.**—The trustee (Mr. P. S. Booth, London, E.C.1) for Mr. Francis James Winsor, M.P.S., 9a College Road, Harrow, Middlesex, has been released.

**VOLUNTARY WINDING-UP.**—A meeting of the company, held on February 20, resolved that British Pasteur Chamberland Filter Co., Ltd., should be voluntarily wound up. D. C. Cann, Eldon Street House, Eldon Street, London, E.C.2, was appointed liquidator, and creditors are asked to send particulars to him.

**BANKRUPTCIES.**—Frank Alfred Seymour, M.P.S., trading under the name of Watkins & Co., 37 Preston Street, Brighton: receiving order was made on debtor's own petition on February 19 and the date of the first meeting was March 4; adjudication was recorded in “The London Gazette,” February 28.—Edward Albert Herbert Wright, chemical manufacturer, The Coppice, Woodlands Avenue, Hornchurch, Essex, lately carrying on business at Ann Street, Plaistow, London: adjudication was recorded in “The London Gazette,” February 28; Percy Phillips, 14 Langham Street, London, W.1, has been appointed trustee.

## TOPICAL REFLECTIONS

**Dispensing Alternatives.**—The new Orders “dealing with the replacement of scarce drugs by alternatives having substantially the same therapeutic action” (p. 144 and xi) will be viewed by many with considerable misgiving. They will put upon the pharmacist a new responsibility in the discharge of which he is likely to incur no little odium. We read, for instance: “There appears to be no necessity for the chemist to communicate to the practitioner the fact that such substitution has taken place.” I wish I could believe that every medical practitioner, on a substitution of this kind being reported to him by a patient, will act with sweet reasonableness and will assure the patient that all is for the best. And what will be the attitude of the patient to the chemist? Will he be satisfied that every possible source of the original drug or preparation has been explored?

**Ideals.**—Mr. H. C. Shaw's letter on p. 150 discloses enough of the lines on which he is working to encourage a hope that the subject he has raised will not be allowed to drop. He makes at this stage the concrete suggestion that the local branches of the Pharmaceutical Society be invited to discuss the ideals of their members. The formulation of these ideals may turn out to be a formidable task. I have taken the following sentence from an early volume of *THE CHEMIST AND DRUGGIST*: “Thanks to the educational pressure from without, added to which is the sense of personal responsibility, the pharmacist is daily ceasing to be the mere vendor of drugs; unconsciously, by recognising the necessity of thoroughly understanding the nature and properties of medicinal agents, he is working out the ethics of his trade.” Who said that? Joseph Ince, at the British Pharmaceutical conference of 1866. Mr. Ince went back to Aristotle's “Ethics” in his search for illustrations: he might with advantage have carried the process a stage further and have referred to certain suggestions of Socrates in the Platonic

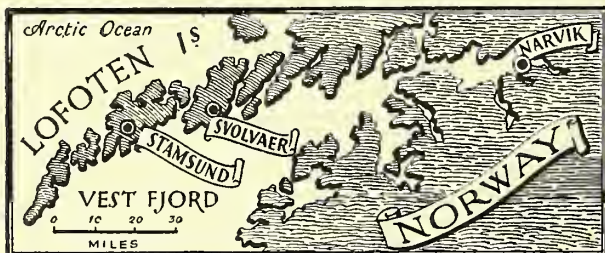
Dialogues. Many rapid thinkers are ready to remind us that the year 1866 is not the year 1941; and the emphasis on different ideals has, no doubts, shifted in the interval, though the ideals remain unless they were insecurely based. In attempting to express ideals in simple language there is room for much hard thinking.

**The Pails at the Door.**—The window carboys, the pestle and mortar over the fascia and any other emblems that may adorn the exteriors of British pharmacies are, it appears, to be put in the shade—figuratively—by the display on doorsteps of two buckets containing a substance resembling whitewash (p. 145). The scathing letter of Mr. Norman Ballan on this subject (p. 150) is entirely to the point. I will only add that an official definition of “a stout wooden pole” seems to be called for. On premises that include a house and garden it may easily be possible to provide a linen prop or a spare curtain pole; but there are lock-up shops to be considered. Perhaps the British Standards Association will oblige with a specification of the pole required. It is difficult to see how the depredations of adventurous children, eager for opportunities of distinguishing themselves, are to be prevented; nor can one overlook the possibility of some valuable animal tasting the contents of the buckets with serious results. In one of his notes to “Waverley,” Scott relates the immortal story of the cow that drank the tubful of ale set to cool outside a Forfar inn. When the owner of the beast refused to pay for the liquor thus consumed, he was sued by the ale-wife in a local court. The magistrate inquired whether the cow “had sat down to her potation, or taken it standing.” The plaintiff answered that she supposed the cow was on her feet at the time. The admission was fatal to her claim. The magistrate “solemnly adjudged the cow's drink to be *deoch an doruis*—a stirrup-cup, for which no charge could be made without violating the ancient hospitality of Scotland.” **Xrayser**



## BRITISH FORCES RAID LOFOTEN

REFERENCE to "finest Lofoten steam-refined non-freezing medicinal" cod liver oil was frequent in THE CHEMIST AND DRUGGIST Trade Report so long as normal peace-time conditions prevailed. For that reason a recent exploit\* of the Royal Navy in making landings at the



*The Lofoten Islands*

four principal fishing ports (including Svolvaer and, presumably, Stamsund) of the Lofoten Islands is of close interest to the drug trade. Its results may have repercussions on supplies and prices of the oil for a long time to come.

**The Raid Described.**—According to an official communiqué issued jointly by the Admiralty and the Norwegian Navy, after the event, the raid was planned with the three-fold object of destroying the plant used for the production of fish oil, and any German ships or ships under German control found in the locality, and of taking prisoner Germans concerned in the control of the fishing industries and such local "quislings" as were aiding and abetting the enemy. The raid took place on March 4, and it is a point of importance that it was carried out at the height of the cod-fishing season, which is from January to March each year. Norwegian marines and British troops were landed, and nine German merchant vessels and one Norwegian merchant ship under German control were sunk; also a German armed trawler, the total of shipping sunk amounting to approximately 18,000 tons. The largest unit sunk was a fully-laden German ship of about 10,000 tons.

A correspondent of Reuter's agency, the only pressman to accompany the expedition, has described what took place. Led by the ship, the boats made rapidly for the landing-places, where the men got ashore before anyone there had time to discover what was happening. The cold was so intense that spray breaking over the boats froze as it fell on them. Within ten minutes of landing the troops had taken control of the telegraph station, post office, and police office. "Next they turned their attention to the oil, cod liver oil, and cod-fishing factories known to be working for the Germans, and soon six of these had been destroyed." Three petrol storage tanks were also destroyed, one going up in flames. Among the factories destroyed was that owned by Allen & Hanburys, Ltd., whose manager, Mr. William Hawes, had been unable to correspond with his family since he returned to Norway from this country about twelve months ago. Mr. Hawes related that the Germans left him to himself so long as he maintained the output from his factory. Every few days a group of German officers checked up on his output, but, said Mr. Hawes, "I met only one and that for a few minutes." He went on, "Last November the Norwegian authorities in Henningsvor told me that the Germans had ordered my imprisonment. It was during my imprisonment that I met the only German I have spoken to since the whole thing began. He came to see me about the oil factory. He got no change out of me, and he went away. Then I was told that I was to be released. The Germans wanted me to get the machinery ready for the season and everything in order. Well, I was released, and I returned to Henningsvor. But, of course, I did not overwork myself. The authorities had to extend my period of parole. It is astonishing how the oil output has dropped off since the Germans have taken over. They need the oil badly for their munitions, and they have not been getting much. Now

they will get no more at all, and what they had stored has been destroyed." Mr. Hawes returned with the expedition.

All this time the other landing parties had been busy. Explosions, intermittent gunfire, and clouds of smoke told of their efforts. One party sank a 10,000-ton floating fish-oil factory; from this came most of the prisoners. Svolvaer, which, according to German reports, was the scene of the main raid, is the main trading centre of the Lofoten Islands, where the manufacture of fish oil is chiefly carried on. The port lies only about twenty-five miles below the head of the Vest Fjord, at a point at which a number of narrow fjords open into it, one of which is the Ofot Fjord running up to Narvik. The approach to the port is flanked by islets and dangerous rocks ("Maelstrom" is the name of one of the Lofoten Islands).

**Uses of Oil in War and Peace.**—The result of the expedition is hardly to be regarded as the elimination of a competitor, for two reasons. One is that, on the authority of the Ministry of Economic Warfare, the oils produced at Lofoten were being used by the Germans for glycerin in the manufacture of explosives. The second, and more important, is that this country was in normal times one of the largest consumers—it not the largest—of Norwegian cod liver oil. The oil produced in Norway was of the finest quality. The process of preparation is to cut out the liver immediately the fish are landed, grade and wash them, and extract the oil, by treatment with low-pressure steam in large jacketed tanks, with a minimum of delay. The best medicinal oils are treated in refrigerating chambers, where the oil is cooled to  $-10^{\circ}\text{C}.$ , the steaming allowed to subside, and the clear oil filtered off, when the product obtained has but a slight fishy odour and taste, and is of a pale yellow colour. Commercially, cod liver oil is divided into three main classes: Medicinal cod liver oil, technical cod oil, and coast cod oil. The major portion of the medicinal oil is now produced under stringently hygienic conditions, and with such rapidity that little time is allowed to elapse between catching the fish and extracting the oil. Hence any tendency towards contamination is minimised. Technical cod oil is a lower-grade brown oil obtained by



*A cod liver oil plant at Lofoten—one of those destroyed in the raid*

treatment of the cod livers rejected during the grading of livers for medicinal oil; it is extracted by the same method as for the medicinal variety. Cod oil is used largely in the leather industry. Coast cod oil is prepared from the livers of cod not separated from dogfish, hake, shark, haddock, skate and coalfish. Part of the livers harvested from the sea was set aside for natural cod liver oil, for which there existed a good market in France, Belgium, and other European countries; such oils are generally produced in fishing-places at which there are no factories for the production of steam refined oil.

**The Market Position.**—The war, of course, made supply difficult, if not impossible, and the price rose accordingly. The last date on which the price recorded for Lofoten oil in the C. & D. Trade Report was at an approximately normal



level was August 26, 1939, when "finest Lofoten quality" was at 78s. to 79s. per barrel, c.i.f. London. By September 16 it was recorded that "There has been a lively demand for Lofoten quality, and prices have been adjusted, standing now at 120s. to 130s. per barrel, c.i.f. London." On the basis of twenty-five gallons to the barrel, this price represents about 4s. 9½d. to 5s. 2½d. per gallon. On December 23 the price, quoted, now "per gallon," was 10s. 6d. The last date on which any reference was made to Norwegian cod liver oil in the Trade Report was August 10, when there was "no change in the position," namely that there were "no spot stocks of the Norwegian product, and no material coming forward"

(June 15). The last price quoted was a nominal one of 10s. 3d. to 10s. 6d. per gall., on April 13, 1940. It is clear that London stocks had become exhausted well before that date, but that hopes of a further consignment were not entirely dead until some months later. In the ordinary way, the end of the war would have meant resumption of supplies from the Lofoten Islands, but the position will now depend on the speed with which the plant can be rebuilt by the Norwegians when they regain their independence—always assuming reconstruction has not been carried out meantime by the German occupiers of the territory during the months that lie ahead. Time alone will tell.

## MODERN COLLOID CHEMISTRY

by Dr. L. Zakarias

SOAP, pharmaceutical, cosmetic, food, textile, laundry, and other industries are typical colloid industries and users of colloid products. The chemistry of colloids has been acknowledged by physicians, biologists, and chemists, who have realised that the classical rules of analytical and physical chemistry are not applicable to viscous, thick solutions and gels like glue, starch, latex, blood, or soap.

**Origin.**—Colloid chemistry is essentially a British-born science. The term "colloid" was coined by Thomas Graham (1805-69) from the Greek "kolla," meaning "gelatin" or "glue," and "eidos," meaning "like." His "Chemical and Physical Researches" was published in 1876, and he is generally regarded as the father of colloid chemistry. He found, or foretold, almost all those general rules which his followers later improved on. The German professor Springeim tried to prove that the colloids were only the macromolecules (big molecules) of classical chemistry. He proposed to prove this with the typical but the worst apparatus of colloid chemistry, i.e., with the viscometer, and with wrong experimental figures misled many serious research workers.

**Two Components.**—A colloid system is composed of at least two components: the disperse phase (dried egg, glue, or soap) and the dispersion medium (water or alcohol, for example). The disperse phase is evenly dispersed to enormous quantities of colloid particles. This means a certain size of chemical material floating in the dispersion medium. There are three main sizes of the chemicals dissolved:—

- (1) Microns, which may be electrons, atoms, or molecules visible in the ultra-microscope, are in size less than  $1 \mu$  ( $1/100,000$  mm.). They follow the general rules of analytical chemistry, give crystal-clear solutions, and obey certain mathematical laws.
- (2) Ultramicros (colloid particles) are invisible by means of the ordinary microscope even under high power, but their light refractions are visible when viewed under the ultra-microscope, their size being from  $0.1 \mu$  to  $1 \mu$ . Some higher mathematical orders are also produced, but factory foremen do not understand those matters are among the most successful exponents of the main rules of colloid chemistry.
- (3) Microns (suspensions) which are visible through the ordinary microscope, measure from  $0.1 \mu$  (for example, fat particles in milk).

Generally speaking, the colloid size and properties of all chemicals can be given. The two-phase system (disperse phase and dispersion medium) already mentioned can also be classified into eight groups, depending upon the physical state of two components (solid in solid, solid in liquid, liquid in liquid, liquid in solid, etc.).

**Colloids in Water.**—The pharmaceutical and cosmetic industries are mostly concerned with colloids dispersed in water; in this connexion there are three degrees of fluidity:—

- (1) The fluid system (solution) is the colloid "sol" (for example,  $\frac{1}{2}$  per cent. soap solution).
  - (2) Gels are colloid systems showing a greater degree of rigidity (for example, a 10-20 per cent. cold soap solution or 5-10 per cent. starch solution).
  - (3) Coagula result whenever a disperse phase has been coagulated or precipitated either rapidly (lime soap, for instance) for some hours or days (colour or dirt in the fibre), very slowly during months (cotton fibre).
- Usually ultramicros are classified according to their behaviour in water. Thus they are either "hydrophobic" (fearing water) or "hydrophilic" (liking water). Inorganic colloid particles mostly build hydrophobic sols and gels (of

poor value). The organic colloids that have preserved their biological structure yield the most active hydrophilic sols and gels.

**"High Colloid."**—The usual classification of colloids as biological, organic or inorganic, is not, I find, sufficiently explanatory. I use a further term, "subvital," or "high colloid," to denote those of high organic structure like starch, glue or tragacanth. They have the hydrophilic quality in the highest degree, in contrast to certain biological colloids with destroyed structure, which, although hydrophilic to some extent, have not the industrial or biological advantages of high colloids. It can be taken as a general rule that the more hydrophilic a colloid system is, the greater its value in industry. The hydrophobic systems are mostly used as filling materials, either to cheapen the quality, or for some special purpose not allied to the higher colloid property.

**Surface Forces.**—The most important properties of colloids are the enormous surface forces of their colloid particles in water. Dried seeds will absorb 8-9 per cent. of water from a saturated solution of lithium chloride. Since such a saturated solution has an osmotic pressure of approximately 1,000 atmospheres, it is clear that the imbibition pressure of seed colloids may reach enormous strength. Other experiments show that starch heated in water will swell against a pressure of 2,500 atmospheres. Robert Newton showed that hardy winter sap collected in the field during December would not form ice even when subjected to a temperature of  $-58^{\circ}$  C. The water was bound on the surface of sap colloid particles so fast that it had lost its original physical property.

**Practical Value.**—There are many other interesting facts about the surface forces of colloid particles, but it is very important to understand that they are detailed and difficult. Yet these colloid forces together build many clear and relatively simple measurable qualities most important for the pharmaceutical and cosmetic industries, as follows:—

- (1) Peptisation (swelling,  $pH$ , isoelectric point, etc.).
- (2) Protective colloid action (hindering the coagulation and separation of lower colloids by higher ones).
- (3) Viscosity and plasticity.
- (4) Hysteresis (effect of preliminary treatments or "memory of a colloid system").
- (5) Syneresis (extrusion of liquid from a gel during the process of ageing).
- (6) Osmose and colloid filtration through colloid membranes.

The above notes form an introduction to colloid chemistry, and for those who would pursue their studies further, I suggest they read the book by R. A. Gortner, Professor of Agricultural Biochemistry in the University of Minnesota, entitled "Selected Topics in Colloid Chemistry," published by Cornell University Press, New York, 1937, and by Oxford University Press, London.

**Collective Chemistry.**—After reading this book (omitting the few mathematical formulas), there follows the organic continuation of the science of colloids, i.e., to the collective chemistry of colloids. This newest science has led in the short space of five years to remarkable practical developments. Collective chemistry has put deductive collective thinking in place of analytical thinking. On this basis I developed collective apparatus for measuring simultaneously different properties of colloid solutions and gels. Collective chemistry has helped to solve pharmaceutical, cosmetic and other industrial problems which could never be understood by analytical methods.



# PHARMACEUTICAL SOCIETY OF GREAT BRITAIN

THE Council of the Pharmaceutical Society met at Derby on March 4 and 5, when the chair was occupied by the president (Mr. W. Deacon). Other members present were the vice-president (Mr. F. Wells), the treasurer (Mr. H. Wallis), Sir Malcolm Delevingne, Mrs. J. K. Irvine, Messrs. J. T. Appleton, C. Davis, J. H. Franklin, H. M. Hirst, W. S. Howells, G. Knox Mawer, J. F. McNeal, A. R. Melhuish, L. Moreton Parry, P. F. Rowsell, H. C. Shaw, H. Skinner, B. A. Williams, F. C. Wilson, and J. C. Young.

**Medicine Stamp Duty.**—The Council received a draft memorandum prepared by the Proprietary Association of Great Britain for submission to the Chancellor of the Exchequer containing proposals for safeguarding the position of pharmacy and for a measure of control in the public interest in the distribution of proprietary medicines in the event of the repeal of the medicine stamp duty.

**Pharmacy and Poisons Act, 1933.**—THE PRESIDENT reported upon the Society's deputation to the Home Office and subsequent correspondence from the Home Office was submitted. A number of communications from branches on the question of amending the Act were received, and the Council passed the following resolution: "That the Law Committee be instructed to bring to the Council evidence against a co-operative society of a breach of Section 9 of the Act of 1933."

**Annual General Meeting.**—Wednesday, May 21, at 12 noon, was fixed as the day and time for the annual general meeting of the Society and the election of members of Council.

**B.P. Addenda.**—On the recommendation of the Education Committee, it was resolved that the Boards of Examiners for England and Wales and for Scotland be asked not to examine upon the material contained in Addendum 2 (1940) and Addendum 3 (1941) to the British Pharmacopoeia in any examination held before July 1942. MR. ROWSELL said the Committee felt that due notice should be given to schools and students so that they could master the Addenda.

**Recommendations to Hospitals.**—MRS. IRVINE proposed "that all recommendations to hospitals be submitted to the Council before they are made." She said she had been asked to bring the matter forward by some members of the Society who felt apprehension concerning the manner in which the Society was recommending unqualified students and unregistered people to hospitals without finding out the conditions under which the qualified staff were employed. Some method should be adopted to safeguard the position of those staffs. They were members of the Society and should be protected. The Council wanted to help unqualified people, but their first duty was to their own members. She could not see why the appointments should not be brought before the Council instead of recommendations being made before the Council knew anything about them. In one hospital there were four qualified pharmacists, and a bachelor of pharmacy and two unqualified students.—MR. MCNEAL, who seconded, said that if displacement of a qualified pharmacist resulted from a student going to a hospital on recommendation, one could imagine the feelings of qualified pharmacists throughout the country on finding that their work was being done by such a student. The latter went to a hospital for experience and should not displace a qualified person. The matter should come before the Council and it would be better for the Dean himself not to be concerned. Conditions at the hospital should first be ascertained.—MR. PARRY, having complained that he was in the dark as to what the motion was about, MRS. IRVINE explained that she had been told as a member of the Council that the Society had recommended three students and she felt the Council ought to be informed. There might be something to be said in favour of the system, but they did not know it and it would be helpful to be told what was happening. The motion was solely concerned with the subject of unqualified assistants being put into hospitals.—MR. KNOX MAWER said it appeared to him that the practice was similar to that by which the head of a college or school was asked to recommend students. The Dean recommended students who were partly trained in order that they might gain experience. The matter should go to the Education Committee.—THE SECRETARY said it had been the practice of the Dean in collaboration with the medical department of the London County Council to recommend students so that they might finish their education. It was the normal function of any

head of a school to find posts for his students and one would be unwilling to see the freedom of head teachers to act in that way taken from them. In one case by a coincidence two Belgian students together with a bachelor of pharmacy recommended by the Dean were all sent to one hospital. The pharmacist already there left for another berth and the hospital committee decided that they were not justified in replacing him in view of the fact that three students were available. It should be made clear that the Belgians were not recommended.—MR. WILLIAMS considered it desirable that the conditions of service of the refugees should be defined.—Accepting the secretary's explanation, MRS. IRVINE, with the concurrence of the seconder, withdrew her proposition. She thought, however, that it was a pity that the Council could not be informed of the circumstances in such cases and that it should be impressed on the Dean that the first duty was to members of the Society.—MR. KNOX MAWER suggested that in future the recommendations should be placed on the agenda for a meeting of the Education Committee.

**Registration.**—It was reported that since the last meeting forty-four persons had been registered as apprentices or students. The names of fifteen pharmacists were restored to the Register as from the date of removal, and similar applications in regard to two premises were granted.

**Correspondence.**—Letters were received from the Pharmacy Board and the Pharmaceutical Society of Victoria, the Alberta Pharmaceutical Association and the American Pharmaceutical Association conveying season's greetings.

**Scottish Board of Examiners.**—Professor Wagstaff, M.A., D.Sc., and Professor Ferguson, M.A., D.Sc., were appointed additional members of the Board of Examiners for Scotland the purposes of the degree of B.Sc. in Pharmacy of the University of Glasgow.

**Report of Examinations.**—On the presentation of the report of examinations held in London in January, the TREASURER referred to the delay in notifying the results, and on the suggestion of the secretary this matter was referred to the Education Committee.

**Benevolent Fund.**—MR. J. F. MCNEAL presented the report of the Benevolent Committee, which was adopted. It included a recommendation that a bonus of £5 be granted to each of thirty-eight annuitants on the occasion of the celebration of the centenary of the Society. Among the special contributions made during February were the following: Wander, Ltd. (making a total of £1,700), £100; Sir Harry Hague, £55s.; Portsmouth Chemists' Association, £55s.; Alchemy Lodge, 3950, £33s. The contributions to the Orphan Fund include £55s. from Sir Harry Hague, and £22s. from the Portsmouth Chemists' Association.

**Evacuation of Books and Specimens.**—The Establishment Committee, reporting on the evacuation of the library, stated that approximately six tons of books had so far been dealt with. A substantial part of the museum specimens, including the whole of the herbarium, filling fifty-two packing cases, had also been transferred to the National History Museum for evacuation to the country.

**Finance.**—Moving the adoption of the report of the Finance Committee, the treasurer drew attention to a decline of £536 in subscriptions to the benevolent fund, which he regarded as an extremely serious matter.

**Strychnine.**—The Law Committee reported that proposals from MR. KNOX MAWER concerning the use of strychnine for the destruction of rats and mice were reconsidered following reference back by the Council of the recommendation that no action should be taken in the matter. The secretary had been in communication with the Ministry of Agriculture on the subject and was awaiting their reply. He was instructed to communicate with the Ministry of Food to secure their views on the problem and also to ascertain what vermin killers were available under present conditions. The Committee recommended that the matter be deferred until the next meeting pending the reply from the Ministry of Agriculture to the secretary's letter. The recommendation was approved on the motion of the PRESIDENT, who said that if the Society could play any part in dealing with the rat menace it would do so.

**Public Services.**—The minutes of the Public Services Committee were submitted by MR. MCNEAL, who, referring



to the question of medical supplies at first aid posts and public shelters, stated that liaison was being established between health officers and pharmacists so that there could be consultation on matters of common interest.

**War Aid.**—THE PRESIDENT, presenting the report of the War Aid Committee, expressed delight at the response which was being made to his appeal, the amount subscribed up to February 22 being £9,073. Some of those who had suffered most, he said, had the warmest hearts and were giving most generously. Eighteen members of the Society and one student were prisoners of war, and cigarettes and books were being sent to them.

**The Appeal Fund.**—The Appeal Committee reported that as a result of the calling in of promised contributions the condition of the fund so far as members' contributions were concerned was as follows: Donations £6,333 2s. 10d., deeds

of covenant £1,312 17s. 2d., tax recovered £970, total £8,616. A substantial number of promises had not so far been redeemed. The Committee recommended that no new appeal be made in present circumstances, that members who had promised donations or had agreed to enter into deeds of covenant should be reminded of their undertakings and that members who had entered into deeds of covenant should be reminded each year of their promises to contribute. The report was adopted.

**Council Election.**—The Council decided to approach the Privy Council with the request for a direction under the Chartered and Other Bodies (Temporary Provisions) Act for the postponement of the Council election from year to year.

**Birthday.**—At the conclusion of the business the PRESIDENT reminded members that they had met on the anniversary of the birth in 1817 of Jacob Bell, the founder of the Society.

## SOCIETY'S SECRETARY AT BIRMINGHAM

MEETING of the Birmingham Branch of the Pharmaceutical Society was held on February 26, Mr. Mann (president, Birmingham Pharmaceutical Association) in the chair. The speaker was Mr. H. N. Linstead (secretary, Pharmaceutical Society), who recalled that two previous Chancellors of the Exchequer had put forward proposals for the repeal of the Medicine Stamp Acts; on each occasion the suggestions had been withdrawn owing to opposition from interested parties. In April, 1940, the Chancellor had said he would endeavour to bring the various interests together to get drawn up a scheme acceptable to all concerned. This was mainly a national Pharmaceutical Union matter, and the N.P.U. had been conducting negotiations with representatives of the Government, the co-operative societies, the multiple firms, and the grocers for some months; negotiations were still proceeding. A possible solution might be found in allowing chemists to sell medicines that were non-proprietary, with commendations on the labels as to their use, whilst other traders would be able only to sell these products without such recommendations.

**War Aid Fund.**—Mr. Linstead emphasised the importance of the Society's War Aid Fund which, he said, had been well supported, donations coming from various parts of the world. Further subscriptions were required.

**Military Service.**—There was to be a substantial "comb-out" in the schedule of reserved occupations, he went on. The man-power committee of the Cabinet had requested the Ministry of Labour to find a large number of men for the fighting services during the coming months. Pharmacists were totally reserved at present, but the central pharmaceutical war committee had sent a recommendation that the reserved age limit should be fixed at twenty-five years. His age would probably prove too low, and a sorting-out could then take place of pharmacists over twenty-five years; obviously it would be more important to retain proprietors and managers in preference to qualified assistants. Arrangements had been made for a larger influx of pharmacists into the Royal Army Medical Corps, and batches of fifty were being taken monthly by the War Office. Negotiations had so proceeded to develop the pharmaceutical service of the Royal Air Force. The scope in the Navy was not so wide; about sixty pharmacists were at present in that service. It was obvious that the large numbers of pharmacists likely to enter the services would rule out any possibility of commissioned rank for all pharmacists, but there was nothing to prevent members getting recommendations for commissions from the ranks under the existing scheme. Pharmaceutical students were at present only reserved if they had completed two years' training in a shop or college. Complete reservation was desirable, as it would prevent a sudden rush on the conclusion of hostilities of 4,000 to 5,000 persons applying to the Society and the Government for financial assistance. Then, in many instances, their claims to be genuinely employed in the trade were somewhat artificial. The number of entrants to pharmacy was much reduced under present conditions, and a recommendation had been sent asking the Ministry of Health to consider reserving all pharmaceutical, medical, and dental students to enable them to complete their qualifications before being called up for military service.

**Pharmacy Act Amendment.**—Mr. Linstead said that before the 1933 Act a chemist or grocer had been able to

sell drugs in shops where there were no pharmacists in charge; this advantage chemists gave up voluntarily. The Act laid down what a chemist must do, but there was no legislation to say what other traders must do. The co-operative societies and the Government had not thought that these sections of the Act would operate so as to make it illegal for the co-ops to sell drugs in their grocery departments, as had proved to be the case following a High Court decision. The Government took the view that the Act should be amended to bring the co-operative shops into line with other traders. Pharmaceutical opinion was divided. Some thought that the proposed legislation should be accepted, and others that action should be taken under the existing regulations. A further suggestion had been made that the whole question should be shelved until after the war, when the Government could set up a commission to consider the whole sphere of the retail sale of drugs. The Government, while sympathetic, had not been able to see its way to accept the suggestion in the present uncertain conditions. Arguments used in favour of the proposed amendments were (1) that the co-operative societies would put themselves within the law by creating "daughter" societies to manage their pharmacies, and would then carry on exactly as at present, selling drugs at grocery departments; and (2) that the problem was linked with other departmental stores. From the point of view of general policy, the proposals made by the Government went a long way towards defining what was the business of a chemist and druggist and what was not. They also went far towards preventing a departmental store from setting up a drug store in competition with chemists' shops until such time as it suited the convenience of the store to turn the branch into a pharmacy. Prosecution would be followed by either an amendment of the Act by the Government or reorganisation of their constitution by the societies. The choice in fact lay between (a) the Government amendment, with additional provisions, and (b) reorganisation of the societies. He felt that, once the societies had reorganised themselves, they would be in a position to compete with chemists even more advantageously than at present. They would be able to operate as drug stores or chemists or grocers selling drugs just as it suited their convenience. It seemed to him unwise to put the societies into such a position. The amendment would closely limit what the societies could do. The issue was whether a present of "free trade in drugs" should be made to the societies. He urged that the amendment should be accepted and improved as the only practicable way of reasonably curbing the extension of the drug business by co-operative societies.

**Discussion.**—Mr. Mann, in proposing a vote of thanks, said the local committee had decided to send £12 10s. to the Society's War Aid Fund and £12 10s. to the N.P.U. War Distress Fund. MR. TEARE, who seconded, said that a collection for the Benevolent Fund taken during the meeting had realised £5 8s. 3d. MR. MARTIN asked whether the new scheme of providing bleach cream for use by the public as an antidote for blister gas would render pharmacists liable to give a twenty-four-hour service. MR. Linstead said it would not. MR. GREENWOOD asked what was the position of pharmaceutical students doing research work at universities. MR. Linstead replied that reservation was considered under the heading of occupation rather than of qualification, and such a student could secure reservation as a research worker.



## MAINTAINING SPA WATER SALES

THOSE chemists, and they are legion, who had developed a considerable peace-time sale for bottled spa waters, will have watched with chagrin their dwindling turnover as first the German Apollinaris, next the Hungarian waters, and at a later date the numerous French waters—Vichy, Contrexeville, Vittel, Perrier and others—became irreplaceable. Such loss has been the harder to bear since so many medicinal



*The Pump Room, Bath*

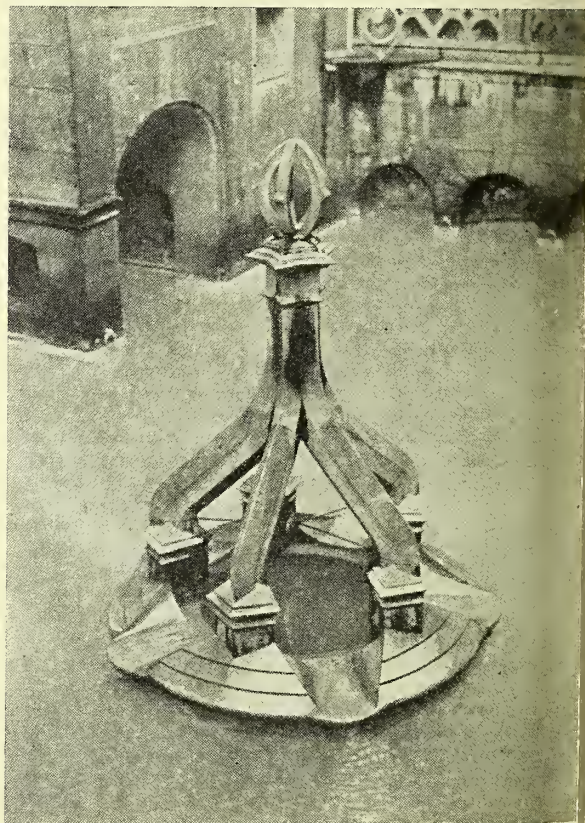
drugs ceased to be imported, while cosmetics and toilet preparations have become subject to a drastic supplies quota. For the last-named merchandise there has been virtually no substitute stock to reinforce the falling returns of the business, while only relatively few of the drugs are capable of replacement by home-produced alternatives. When the spa waters are reviewed the position is rather different. There are a number of British natural waters that could have been developed, had opportunities not been neglected. To some, at least, of these the disappearance from commerce of Continental waters has directed attention anew.

**Britain's Wealth of Spa Waters.**—So far in advance of the commencement of the present war as June 1937, an article from the pen of Dr. S. Judd Lewis appeared in the Annual Special Issue of *THE CHEMIST AND DRUGGIST* in which he drew attention to the fact that the British Isles are by no means poor in waters suitable for bottling. He wrote: "There are few that contain any appreciable quantity of free carbonic acid, but that is of little account in respect of table waters, as the Continental waters are frequently artificially gassed, while many are also sold 'still.' It has to be recognised that the Continental waters are in possession over here, and in order to compete with them it is necessary to offer something which offers distinct advantage in some particulars: imitation is not good enough. The first essential is to have the water right in every detail, supported by authoritative analytical and other testimony; and there must be a plentiful supply." With this moderate argument few will disagree, and there is one British spa water that seems to comply with the conditions in superlative degree, namely Sulis, the natural spa water of Bath. This is not an imitation of any imported water, but "offers distinct advantage in some particulars," for it is the only naturally-occurring hyperthermal water in the United Kingdom and it has an unquestioned reputation dating back unbroken to the days of the Roman occupation of Britain (Bath—the *Aquæ Sulis* of the Romans—was never to them an administrative centre but frequented solely for its advantages as a bathing resort). Sulis water is in virtually unlimited supply, for the three springs in which it arises deliver between them a quantity of half-a-million gallons every twenty-four hours. Above all, its claims are supported by authoritative analytical testimony.

**Composition and Indications of Sulis Water.**—Various analyses of the Bath hyperthermal waters have been carried out at different times. Perhaps the most exhaustive is that undertaken within the last few years in accordance with the standards of the International Society of Medicinal Hydrology. This analysis, given in terms of milligrams per litre, is as follows:—

Potassium chloride ..	29.1	Molybdenum chloride	0.067
Sodium chloride ..	421.5	Manganese chloride ..	0.063
Sodium sulphate ..	18.1	Iron chloride ..	3.3
Calcium sulphate ..	1,330.0	Aluminium chloride	0.22
Magnesium sulphate	62.3	Sodium bromide ..	1.7
Magnesium bicarbonate ..	231.2	Sodium iodide ..	0.015
Ammonium nitrate	1.7	Sodium fluoride ..	9.5
Rubidium chloride ..	0.12	Sodium arsenite ..	0.17
Lithium chloride ..	1.3		
Strontium chloride ..	10.2	Sum of the salines	2,121,222
Barium chloride ..	0.21	Sulphur ..	0.08
Copper chloride ..	0.067	Boric acid ..	3.6
Silver chloride ..	0.14	Silicic acid ..	56.7
Lead chloride ..	0.14		
Bismuth chloride ..	0.11	Total sum of the items determined	2,181,602

Possibly the Continental water to which Sulis bears most resemblance is Contrexeville, but there is good reason for believing that the British water should command a large following in its own right among customers to whom Contrexeville is no more than a name. The probability is, in fact, that



*The King's Spring, Bath*

a market could be developed by pharmacists for this on British spa water alone that would more than counterbalance losses due to the closure of Continental sources. Medical indications for Sulis are numerous, as demonstrated by the following list drawn up by the spa committee of the Bath branch, British Medical Association:—

1. Chronic arthritis both of the osteo-arthritic and rheumatoid types.
2. Fibrositis in all its forms, including lumbago, sciatica, and brachial neuritis.
3. Gout.
4. The after-effects of fractures and other injuries.



## NATIONAL PHARMACEUTICAL UNION

MEETINGS of the Executives of the National Pharmaceutical Union and Chemists' Defence Association were held at 4-5 Queen Square, London, W.C.1, on February 25, Mr. J. Hearle in the chair. The secretary reported on further negotiations that had taken place with the Proprietary Association over the wording of proposals for replacing medicine stamp duty in the possible event of its repeal. The Company Chemists' Association was understood to be in agreement with the proposals, subject to certain reservations; the approval of other parties had yet to be obtained. During the past month, representations had been made to the Board of Trade about application of the Limitation of Supplies Order to bed pans, urinals, and razor blades. Preferential treatment of canteens, classification of goods, loss and sale of quotas were other matters that had been dealt with. The secretary gave details of the Pharmaceutical Council's negotiations with the Home Office on Clauses 8, 9, and 10 of the Pharmacy and Poisons Act. A proof copy of the annual report and accounts for the year ending December 31, 1940, was considered.

**War Claims Paid.**—For the period ended January 31, claims paid out of the Air-raid Assistance Fund amounted to £6,525; subscriptions received during the same period amounted to £6,288. The position of the N.P.U. War Distress Fund for Proprietor Pharmacists was reported; the amount collected up to the end of January was £15,641.

**National Health Insurance.**—The Executive, after receiving a report from the Central N.H.I. Committee, resolved that the Ministry of Health should be asked to provide increased remuneration for N.H.I. dispensing to meet war conditions. A subcommittee consisting of the chairman and secretary, chairman of the Central N.H.I. Committee, and Mr. Tristram, together with a representative of the company chemists, was appointed to conduct the negotiations. Discussion took place on difficulties due to shortage of drugs; supplies and prices of hypodermic syringes; and the effect upon National Health Insurance dispensing of any change contemplated in the position of pharmacists in the schedule of reserved occupations.

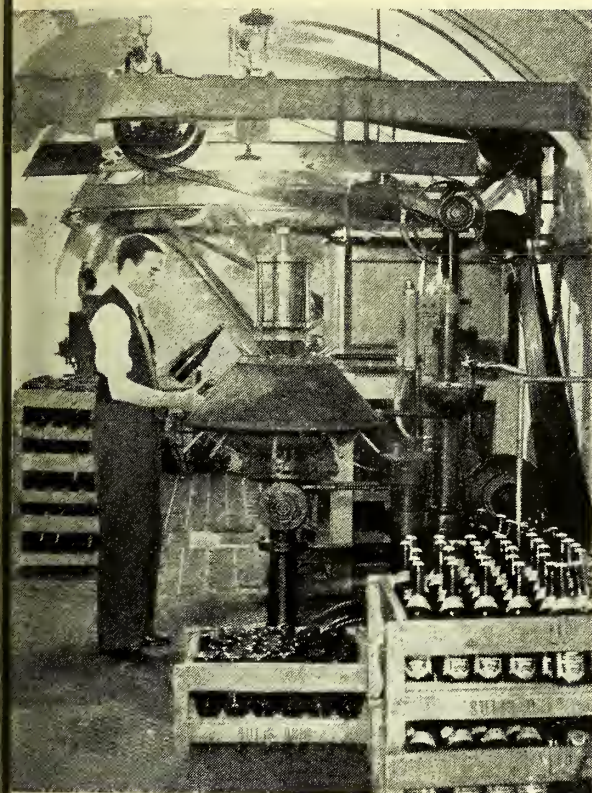
**Chemists' Defence Association.**—The directors received a report on outstanding claims and on cases that had arisen since the previous meeting. Four had been settled, including three claims for damage to clothing resulting from contact with an insufficiently guarded fire, breakage of a bottle of mist. bismuthi sedativa, and contact with a projecting hook. The fourth claim settled arose from collision of an errand boy with a stationary car. Two members had been defended against summonses under the Lighting Restrictions Order, and another against summonses under the Registration of Business Names Act. Fifty-four shares were transferred to new members.

## PARLIAMENTARY NEWS

**Limitation of Elastic Hosiery Supplies.**—Mr. W. A. Reid (for Sir Smedley Crooke) asked the President of the Board of Trade, on March 6, whether he was aware that, under the Limitation of Supplies Order, the manufacture of elastic hosiery could not be proceeded with until June; and what steps were proposed to enable sufferers from varicose conditions to obtain necessary supports. Captain Waterhouse (for the Minister) replied that the Minister proposed to issue an open licence permitting this hose, when not containing silk, to be supplied without restriction to unregistered persons.

**Shop Closing Hours.**—Sir L. Lyle asked the Home Secretary, on March 6, whether he was aware of the difficulties encountered by many day workers in obtaining rationed food and other commodities from shops which now closed at an early hour, and whether he would cause the retail trade to extend hours of opening now that the black-out did not take place till 7 p.m.

Mr. Herbert Morrison: The information which I have does not suggest that the difficulties to which my hon. Friend refers are widespread, but in any case the earlier closing hours fixed for the winter months by Defence Regulation came to an end on March 2, and shopkeepers are now at liberty to fix their closing hours within the limits imposed by the Shops (Hours of Closing) Act, 1928.



Section of bottling plant, King's Spring, Bath

5. Certain forms of organic nervous disorders, especially those requiring re-education of movements.
6. Circulatory disturbances and high blood pressure.
7. Functional disorders of the liver, including cholecystitis and hepatic glycosuria.
8. Obesity.
9. Constipation and the chronic forms of colitis.
10. Urinary conditions where diuresis is advisable.
11. Certain pelvic disorders in women.
12. Chronic forms of rhinitis, pharyngitis and laryngitis.

The only contra-indications are tuberculosis, neoplasia, extreme debility and acute rheumatic fever.

**Bottled Sulis.**—While it is no doubt true that the greatest advantage is to be derived from the Bath waters if they are taken at the source, the question hardly arises in considering the possibilities of developing British in place of Continental spa waters. For there is no reason to suppose that there is any greater loss in bottling the British than in exporting the German, Hungarian, or French waters of similar origin. The authority already referred to, Dr. Judd Lewis, has stated, with reference to the presentation of spa waters for distant users, "it appears to be very nearly, even if not quite, attainable, except with regard to certain properties which are inseparable from 'freshness.'" The Bath water is bottled exclusively at the King's Spring under licence from the City of Bath Corporation, the sole concessionaires being Cater, Moffell & Fortt, Ltd., The Springs, Bath. From the King's Spring it is pumped to a height many feet above the level of the bath into cooling tanks, from which it is drawn off by gravity through filters prior to aeration and bottling by machine (capacity seventy dozen quart bottles per hour). The water thus undergoes no change in mineral content, and no addition but carbon dioxide. It will come as a surprise to many chemists, though its localised sale at pharmacies is considerable, that bottled Sulis water has been available for many years in large and "half" bottles and "splits." Advantage is being taken of present conditions by the concessionaires to establish for it a more widespread popularity both by more effective distribution and by advertising in the lay Press, commencing with a series of advertisements in "Punch." Distribution, except for very large orders, will be effected through the usual trade wholesalers, but the concessionaires invite direct inquiries by all who desire further information.



## PEST CONTROL IN HORTICULTURE AND AGRICULTURE

**U**P-TO-DATE methods of fruit production call for the concentration of tens of thousands of trees in the more suitable agricultural areas. Unfortunately this concentration, among other factors, has upset the balance of nature as between pest and parasite, and has tended to increase the numbers and distribution of noxious pests. The cereal farmer now knows that gaps in the rows of crops such as oats are as often due to seed-borne diseases as to wireworms, and that bunt of wheat, for example, may be completely controlled by products that have no deleterious effects on germination. Similarly, the tremendously increased demand for agricultural products has called for more complete control of rabbits and other rodents, and chemicals are now available for the purpose. Although modern methods of crop production have tended to increase pest problems, modern science has not only provided the answers to long-recognised troubles, but has tracked down the biological causes of hitherto obscure maladies and shown the way to combat them. During the past generation the chemical industry has directed tremendous efforts towards the discovery, production and marketing of better and cheaper chemicals for the use of farmers and horticulturists. In place of a few all-purpose products, relatively ineffective, there are now available complete ranges of highly specific and highly effective pest-control products for all main requirements.

**Principles of Pest Control.**—It is necessary to understand in outline the life processes of the organisms in order to appreciate properly the various methods of pest control adopted. Broadly, insects are usually divided into chewing and sucking kinds. The former feed by consuming leaves and fruits, and the standard method of combating both larvæ or adults is to spray the host plant with a stomach poison such as lead arsenate: caterpillars of codling moth and the various winter moths on apple trees are killed in this way. Other groups of insects, such as the aphides, insert a needle-like proboscis into the tissue of the host plant and imbibe the plant juices. Against these a stomach poison is useless; the grower must fall back on a contact poison such as nicotine or a derris preparation, which kill when they touch the body of the insect. Insects demanding contact poisons include the green fly of roses and the black fly on broad beans. Insects that infest stored products, such as weevil on grain, may not usually, for obvious reasons, be killed by spraying with

oil and dinitro-orthocresol which, in addition, gives considerable control of capsid bugs and red spider, two further pests of fruit trees.

Some insects may be caught and destroyed by taking advantage of their habit of migrating up or down the fruit tree trunk. Hence the application of sticky or corrugated-card-

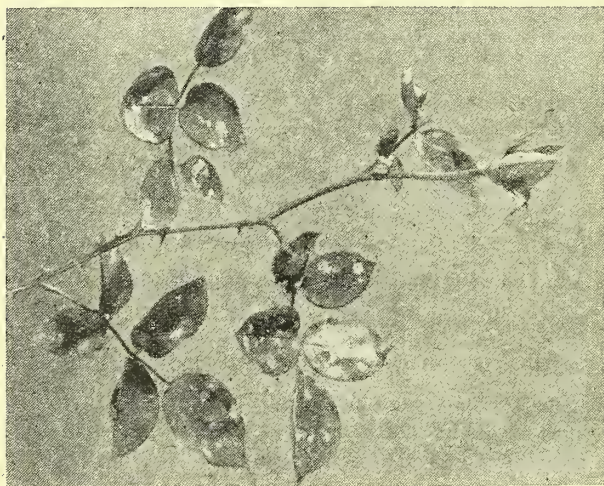


*Sound heads of wheat, alongside heads ruined by wheat smut.*

board bands towards the end of summer. The object of the former is self-evident; the latter are designed to simulate desirable hibernating quarters for the insect and must, therefore, be removed and burned at the turn of the year. A further development is the impregnation of these bands with  $\beta$ -naphthol to kill the insects caught. Still other insects may be prevented from doing damage by the use of repellents which keep them away from the host crop.

**Fungus Problems.**—Similar considerations apply to problems of fungus control, as for example, to cereal diseases as to fruit-tree pests. Covered smut or bunt, a serious disease of wheat, is carried over from one season to the next in the form of spores on the outside of the wheat seed; it may be controlled by dusting the seed with a chemical dressing. Loose smut, on the other hand, carries over within the seed, and so far no satisfactory chemical treatment has been devised. Rust of wheat is not transmitted primarily on or in the seed, and totally different methods, such as dusting the standing crop with sulphur, become necessary. Evidently it is imperative to have full details of the life history, make-up and habits of the organism before an intelligent effort can be made to kill it. It is equally necessary to know the exact relationship between pest and host plant, since the one must be killed without harm to the other. The margin is frequently narrow, sometimes non-existent; in the latter case an alternative method of attack, or the same method at a different season, must be used.

**Preparations Affected by Poisons Regulations.**—Large numbers of chemists and druggists, particularly in country districts and market towns, carry full ranges of pest-control products and have a good working knowledge of their characteristics and performance. As a selling agent the chemist is in a particularly favourable position in face of the poisons regulations. It is proposed, therefore, to deal specially with one or two products that come within this category and are of particular interest at the present time of national emergency. Reference has been made in general terms to seed-borne diseases of cereals and their control by chemical means. Smut of wheat—one such disease—receives its name from the characteristic fishy odour of the affected ears during the growing season. Towards harvest-time, diseased grains are full of black spores of the fungus, which at threshing-time are scattered all over the otherwise clean grain. An equally important disease to be guarded against in these islands is leaf stripe of oats; here again the disease spores are carried throughout the winter on the seed and attack the growing



*Rose bud and foliage infected with the rose mildew.*

insecticides, particularly poisonous ones. In such circumstances a fumigant that leaves no undesirable residue is used. Many insects cannot conveniently or economically be controlled in the larval or adult stages, but are susceptible in the egg stage. A tar-oil or tar-petroleum wash applied during the dormant (winter) period will kill the eggs of aphides, apple sucker and scale on deciduous fruit trees. More recently there has been developed a winter wash containing petroleum



point so soon as the seed germinates. Badly infected seeds produce distorted seedlings, which may not manage to emerge from the soil. Others send up weakly plants that fail to tiller properly; these show the typical leaf-stripe markings and considerably decreased vigour. All these symptoms are due to "primary" infection. Later in the season the disease appears on the leaves again as brown spots, and it is possible for an oat crop, originally healthy, to suffer from infection caused by wind-borne spores from neighbouring fields. Such "secondary" infection seldom causes much immediate harm, but infects the crop so that the grain carries on the fell work



Healthy oat seedlings grown from diseased seed after treatment with Agrosan G, compared with seedlings from untreated seed.

the following season. The loose and covered smuts of oats, rust and net blotch of barley, and fusarium of rye, are all diseases spread in the same manner.

**Evolution of Antidotes.**—Apart from application difficulties, control of these diseases by dusting or spraying the standing crop is ruled out on the score of expense. It is not surprising, therefore, that between the seventeenth and nineteenth centuries various seed treatments were tried, including "pickling" in brine, copper sulphate and formaldehyde solutions. The last two were moderately effective but were apt to impede subsequent germination, and of course the seed had to be dried before sowing. Dry treatment of seed with copper carbonate was introduced in 1917, and the method had a considerable vogue, particularly in Australia and the U.S.A., but copper carbonate is dusty to handle and rather limited in its range of usefulness. In the last twenty-five years various large chemical manufacturers have interested themselves in the problem, and, following a considerable amount of research, have evolved a completely new type of seed dressing, composed almost exclusively of organic mercurial compounds. A curious feature of this type of product is that any chemist coming across the active principle for the first time would probably regard it as completely impracticable for widespread, large-scale use by the farming community. The active organic mercurials are dangerous and expensive, but their fungicidal efficiency is so high that means have been found for incorporating them in dusts that can be applied to seeds quickly, efficiently, and, with ordinary precautions, without discomfort to the operator. Furthermore, despite the high cost of the active principle, the expense per acre of the dressing is almost negligible in comparison with its benefits. Details of the methods of application of Agrosan G, one of the best known of the mercurial compounds, to seed grain are perhaps out of place, but it may be indicated that there are now available machines from small end-over-end cylinder dressers for batch-dressing a few bushels at a time, to large automatic, power-driven, continuously-operating machines of large throughput.

**Weed- and Rodent-killers.**—Pest control is usually regarded as covering also weed-killers and chemicals for the destruction of rabbits and other burrowing rodents. Chemists here, of course, advantageously placed for handling such poisons as arsenical or cresylic weed-killers, already well-known and established in the horticultural world, but recently the cyanide dusts used for gassing rabbits have introduced a new potential source of turnover. These

preparations are of particular interest owing to the paramount need for increased agricultural production and to the Ministry of Agriculture's scheme for subsidising the use of these chemicals. The method consists of inserting into the burrows small quantities of a cyanide powder. This, on contact with moist air and earth, evolves hydrocyanic acid gas, which is extremely deadly to the animals. There are two distinct methods of application. The most recent and simplest, the "spooning" method, consists in placing about one ounce of the dust in a spoon or small container attached to the end of a yard-stick, and emptying it well inside each hole. The mouth of the hole is then thoroughly "stopped," preferably by pressing into it a large sod of turf. Material may perhaps be economised by stopping obviously little-used holes without treatment, and gassing only those which are well-used. The older method of rabbit gassing is to blow the dust into a main hole of a warren by a piston-type pump or a rotary-fan blower until it is seen to be emerging from neighbouring holes. All these holes are then "stopped" and any remaining holes similarly treated. It is regarded as most important that the dust is blown into, or seen to emerge from, every hole of the warren. The spooning method is simpler and needs less apparatus: the blower method more economical of material and better where the first capital cost is justified by the scale of operations. By both methods the rabbits are killed painlessly after a few seconds' exposure to the gas, but users should be warned not to dig out burrows shortly after gassing, as results are apt to seem disappointing. When frightened, rabbits have a habit of retreating to a dead-end in the warren, where the gas cannot easily follow them, and remaining "bunched-up" for periods up to twenty-four hours or even more. Only when they recover from their fright do they turn round and come out into the lethal gas. Although cyanides as such are extremely dangerous, the rabbit-gassing dusts are, with ordinary intelligent handling, perfectly safe in the field. Adequate instructions are given with the material. The Ministry of Agriculture's subsidy scheme came into force on March 1, for six months. Its working may be exemplified by reference to the preparation Cymag. The farmer applies to his local County War Agricultural Executive Committee and satisfies them that the material is required on his land. If satisfied, the Committee provides a certificate in duplicate authorising the farmer to buy Cymag from his usual chemist or other stockist at half price. The chemist retains one copy of the certificate to satisfy the poisons regulations and forwards the other to the County Committee, for payment of the subsidy. All Committees have lists of stockists.

**Why Rabbits are to be Poisoned.**—For those who wonder why rabbits should be gassed when meat is so scarce, it may be pointed out that rabbits are a poor instrument for converting green crops into animal protein and fat, and the amount of agricultural produce eaten or fouled by rabbits is immeasurably greater than the value of their carcasses as food. It has been reliably estimated that five or six rabbits eat as



Applying Cymag cyanide powder to rabbit holes, which are then filled in with turf or soil.

much as one sheep. From a national point of view there is, therefore, no doubt whatever that as many rabbits as possible should be exterminated. It may be noted that the cyanide dusts are also useful for gassing rats. [The Editor acknowledges material and photographs supplied by Plant Protection, Ltd., Yalding, Kent.]



## TRADE NOTES

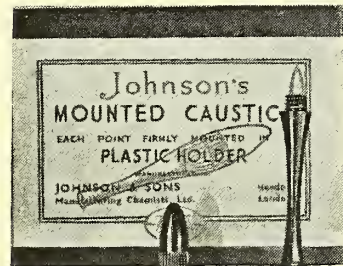
**ADVERTISING CAMPAIGN.**—Parker Belmont & Co., Hellidon House, Hellidon, Northants, are about to conduct an advertising campaign in respect of Clynol Berries. This product is not affected by the Limitation of Supplies Orders.

**SPECIAL OFFER.**—Chemists who experience any difficulty in securing supplies of Celunox tablets for rheumatism are invited to apply for details of a special offer to the manufacturers, Celunox, Ltd., 125 High Holborn, London, W.C.1.

**ALL-PURPOSE TABLE LAMP.**—An instantly-adjustable electric table lamp without springs or ball joints is described in an advertisement in this issue by Pifco, Ltd., 63 Great Eastern Street, London, E.C.2, who invite inquiries as to specially low export terms.

**RE-ESTABLISHED IN THE U.S.A.**—The directors of Tuteur & Co., Inc., dealers in hormones and other pharmaceutical chemicals, announce that, having escaped from Brussels after the invasion of Belgium by the Nazis, they have re-established their business at 60 Wall Street, New York.

**MOUNTED CAUSTIC POINTS.**—For the last fifty years Johnson & Sons, Manufacturing chemists, Ltd., Hendon Way, Hendon, London, N.W.4, have been supplying mounted caustic points, mounted in woods such as cocus, ebony, and rosewood, with screw or plug holders, to customers throughout the world. As it is now impossible to get the wooden holders, Messrs. Johnson have had to recourse to plastic material, made up as illustrated. A list of the



new prices maybe had on application to the makers.

**EMERGENCY SUPPLY SERVICE.**—An offer to do everything within its power to expedite supplies of the ethical products of William R. Warner & Co., Ltd., Power Road, Chiswick, London, W.4, in the event of acute shortage, is made in the company's advertisement on another page.

**AN ALTERNATIVE TO CAMEL-HAIR BRUSHES.**—Many manufacturing chemists and retailers who pack their own iodine solution are finding it extremely difficult to obtain supplies of camel-hair brushes for packing with iodine solution and similar preparations. As an alternative M. J. Fecher, Ltd., Cuckoo House, 10 Dod Street, Burdett Road, London, E.14, offer wick applicators, of which they have large quantities available for immediate delivery.

**STABILISED CHLORAMINE GERMICIDE.**—A 48-pp. booklet giving full scientific data relating to Dygerma, a stabilised 5 per cent. solution of chloramine-T (paratoluene sodium sulphochloramide) has been issued by the makers, Matthews Laboratories, Ltd., Clifton, Bristol, 8, who claim that the preparation has advantages over all other types of hypochlorite disinfectants for general use, is a good steriliser for contaminated water, and is also a safe antidote to blister gases. Dygerma is included in the list of Chemists' Friends products.

**TOILET AND DRUG LABELS.**—Suttley & Silverlock, Andover, Hants., have issued an 18-pp. booklet, lithographed in full colour, giving illustrations and prices of labels and cartons which they are able to supply from stock.—James Townsend & Sons, Little Queen Street, Exeter, offer facilities to chemists for obtaining a series of ten different labels in quantities of 100 and neckbands to correspond in quantities of 1,000, instead of the usual minimum quantities of 250 or 500 for each different label. Details are given in a booklet issued by the makers.

**CURRENT TRADE ADDRESSES.**—The following additions and amendments to the supplement with the *C. & D.*, February 22, containing trade addresses have been notified:—R. W. GREEFF & CO., LTD., "The Retreat," Avenue Road, Hockerill Park, Bishop's Stortford, Herts. Telephone: Bishop's Stortford 494; Also "Cornwood," Little Hadham, Much Hadham, Herts. Telephone: Much Hadham 230; inquiries also to Thames House, Queen Street Place, London, E.C.4. Telephone: Central 6550.—I. ROWLANDS JAMES, LTD., "Glen Barlands," Bishopston, Swansea, Glam.—STEPHENS BROTHERS

& BANNER, LTD., 27 Finsbury Square, London, E.C.2. Telephone: Kelvin 5049.

**VITAMIN C TABLETS FOR INFANTS.**—Glaxo Laboratories Ltd., Greenford, Middlesex, have introduced Infant Celin tablets. Each tablet contains 5 mgm. ascorbic acid (vitamin C), the anti-scorbutic content of approximately two teaspoonsful of orange juice or four of tomato juice. One or two tablets therefore provide the established vitamin C need of the infant, according to age. The cost of fifty tablets is roughly that of their equivalent in orange juice, and the cost of 1,000 very much less. Three points should be noticed in regard to Infant Celin tablets: (1) They can be given in warm milk without their anti-scorbutic properties being affected; (2) they dissolve readily in milk and do not curdle it; (3) they cause no digestive disturbances and have no laxative or constipating effects.

**LABELS AND CARTONS.**—Alf. Harrison & Son, Ltd., Burle Road, Leeds, 4, have issued two folders offering, on the first purchase tax labels ("Purchase tax has been paid on this article"); and on the second, two-colour labels, printed with the chemist's own name and address, for toilet and cosmetic preparations, and embossed gilt labels for perfumery preparations. Messrs. Harrison have also printed a leaflet giving prices of various quantities of pill and tablet cartons for 1,000, printed in one colour on white board. Samples will be sent to chemists on request to the producers. Messrs. Harrison have sent us examples of tablet cartons that are now being ordered in large quantities as an alternative to round pill and chip boxes. The company have also produced a specially constructed carton for bandages so that while the contents are kept sterile, the package may be opened by a first-aid worker using one hand only if necessary.

**REVISED PRICES.**—Information that Forster's Fenoli fluid is exempt from purchase tax has been received by the makers, Hall Forster & Co., Ltd., Peel Buildings, Temple Street, Newcastle-upon-Tyne, who state that the price accordingly revert to their pre-purchase-tax level. Advance prices for Robinson's patent Groats, as from March 10, are announced elsewhere in this issue by Keen, Robinson & Co. Ltd., Carrow Works, Norwich.—Kolynos, Ltd., 12 Chenie Street, London, W.C.1, notify chemists of a change of classification of Liquid Kolynos resulting in purchase tax being no chargeable at the rate of 16½ per cent.; details of the revised prices necessitated by the change are given in an advertisement.—Reclassification of Rozalex has also taken place; the new prices are advertised in this issue by Rozalex, Ltd., Yorkshire House, Cross Street, Manchester, 2.—Potter & Clarke, Ltd., Artillery Lane, London, E.1, inform us that under a new ruling of the Customs and Excise, Dr. Thompson's Slippery Elm Food, and Dr. Thompson's Dandelion Coffee and Coffee Essence, are now not liable to purchase tax.

## C. & D. DISPENSING PRICE LIST

THE drug index of prices for February showed a slight increase, owing to steep variations in the prices of items set out below. The figure for January was 120.7 and that for February 120.9 (based on 100 for the year 1938). In the dispensing prices below the appropriate purchase tax, any, has been added.

Cost		Drugs and Chemicals	Dispensing Price		
d.	per		4 oz. s. d.	1 oz. s. d.	1 dr. s. d.
14	oz.	Araroba .. ..	—	2 0	0 4
93	oz.	Argentum colloidal ..	—	—	2 1
72	oz.	Caffeina .. ..	—	10 8	1 8
48	oz.	Caffeina citras .. ..	—	7 8	1 2
122	lb.	Gelatinum incisum ..	4 4	1 2	0 2
99	oz.	Ol. juniperi bacc. Ang. ..	—	—	2 0
78	lb.	Ol. persic. Ang. .. ..	2 9	0 10	0 2
24	oz.	Safrol .. ..	—	3 6	0 6
54	dr.	Sparteina sulphas ..	—	—	8 8
72	lb.	Succus allii .. ..	2 10	0 10	—
72	oz.	Theobromina .. ..	—	11 6	1 8
45	oz.	Theobromina et sodii acetat ..	—	7 3	1 1
45	oz.	Theobromina et sodii sal. ..	—	7 3	1 1



## LEGAL REPORTS

**Disinfectant Alleged in Aerated Water.**—In the Outer House, Edinburgh, on March 6, before Lord Keith, Mary Ade Moir, or Lockhart, claimed £250 damages from Robert Carr, aerated water manufacturers, Falkirk. It was stated at plaintiff had purchased a bottle of aerated water of defendant's manufacture, and as the result of drinking the contents she sustained burning injuries and was ill for three days. Lord Keith said it was agreed by both sides that the analyses of the contents of the bottle showed traces of phenols. It was also agreed that the quantity of phenols disclosed could not possibly have inflicted any burning injuries on Mrs. Lockhart. There was a natural and probable explanation of the presence of the phenols. Stoppers and rubber bands, the stoppers were liable to absorb a certain amount of any noxious matter with which a bottle had been filled, and, returned to the factory, a tainted stopper was difficult to clean, and might readily infect the contents of a clean bottle. In his opinion no negligence could be attributed to the defendants for allowing a bottle to go out of their works with a tainted stopper. They used reasonable care in washing their stoppers, but their system of washing and smelling the stoppers was not infallible when it came up against an occasionally badly tainted stopper. Defendants could not, in his opinion, be held responsible.

## PERSONALITIES

MR. D. H. GEARD, B.Sc., Ph.C., A.I.C., has been appointed chief pharmacist, Withington Hospital and Institution, Manchester.

NOTICE is given in "The London Gazette," February 28, 1941, that Albert Rothstein, Ph.C., 101 North Street, Leeds, intends to assume the surname of Ruston.

MR. W. P. ROBERTS, whose indisposition was referred to in this column some time ago, has now left the service of the Crown Agents for the Colonies, but hopes to resume his association with the drug or dressings trade in some other capacity.

MR. P. G. JENNER, chief pharmacist, out-relief department, Liverpool Public Assistance Committee, who attained the age of sixty-five years on October 15, 1940, and would normally have retired on that date, has had his engagement with the Corporation extended for a further period of six months from April 15, 1941.

SERGEANT R. M. LEWIN, M.P.S., has been awarded the George Cross. In November, Sergeant Lewin was the captain of an aircraft on a night bombing mission against Italy. Shortly after the take-off the aircraft began to sink, and crashed into a hillside, where it burst into flames. Sergeant Lewin extricated himself and saw three of his crew of four tumbling out of the escape hatch. He ordered them to run clear. He then ran round the blazing wing in which full petrol tanks were burning and crawled under it to rescue his injured second pilot. In spite of his own injuries—a cracked helmet and severe contusions on the face and legs—he dragged and carried the pilot some 40 yards from the aircraft to a hole in the ground, where he lay on him just as the bombs exploded. This superbly gallant deed was performed in the dark under most difficult conditions, and in the certain knowledge that the bombs and petrol tanks would explode. Sergeant Lewin qualified in 1939.

## RECENT WILLS

MR. JOHN HENRY BISHOP, 12 Madeira Park, Tunbridge Wells, Kent, pharmacist, who died on November 30, 1940, left estate of the gross value of £9,847, with net personalty £3,370.

MR. HENRY SIMPSON FOSTER, 187 Banstead Road, Carshalton, Surrey, chemist, who died at Rotherham on October 3, 1940, left estate of the gross value of £4,842, with net personalty £1,507.

MR. THOMAS BARCLAY, chairman and managing director of Southalls (Birmingham), Ltd., surgical dressing manufacturers, Charford Mills, Salford, who died on November 11, 1940, left £396,159, with net personalty £352,101. Among her bequests, he left £100 each to Thomas B. Powell, Edgar Wood, Thomas Varley, William Tomalin, Arthur L. Belfield, Samuel Smith, Arthur W. Thornton, Allan W. Evans, Florence Gough and Mary C. Thompson, and £50 each to Albert W. Bradbyrt, William Oates, Tom Letts, Foster Booth, Arthur Stanfield and Hilda Cooper, all on the staff of the company.

## BIRTHS

Notices for this column must be authenticated

WALLER.—At 18 Eastbourne Avenue, Bath, on March 7, Edna, the wife of Owen H. Waller, M.P.S., of a son.

## MARRIAGES

BAGOT-FRASER.—At Bo'ness Old Church, on March 5, Second Lieutenant Arthur Bagot, The Royal Scots, to Mary Fraser, elder daughter of Mr. Alexander Fraser, M.P.S., Hope Street, Bo'ness.

KENNETT—TEE.—At St. Mary Magdalen Church, Coventry, Augustus Alan Kennett, M.P.S., to Nora May Tee.

## DEATHS

DONALD.—Recently, Mr. Peter Baird Donald, M.P.S., 47 Fraser Crescent, Wardie, Edinburgh, aged forty-three.

HOLMES.—At Sowerby Bridge, recently, Mr. Charles Matthew Holmes, retired chemist and druggist, aged seventy-five. Mr. Holmes was for many years in business at Clapton, London, E.

FREEMAN.—On March 2, Mr. Arthur Alexander Freeman, M.P.S., 128 Luton Road, Chatham, Kent, aged seventy-three. Mr. Freeman qualified in 1889.

LAWRENCE.—Recently, Mr. James Lawrence, representative of the Manchester and Liverpool area for Edison Swan Cables, Ltd.

LIVESLEY.—On February 25, Mr. Charles Alfred Livesley, M.P.S., Mount View, Whaley Bridge, Stockport, aged sixty-five. Mr. Livesley was the son of the late Mr. Alfred Livesley, New Mills, who established the firm of A. Livesley & Sons, chemists, and it was the Whaley Bridge branch which Mr. C. A. Livesley took over.

MACLAREN.—Due to enemy action in South Wales, recently, Mr. Kenneth McRae Norris Maclaren, B.Pharm., M.P.S., demonstrator at the College of the Pharmaceutical Society. Mr. Maclaren qualified in 1939, and last year passed the B.Pharm. and the Ph.C. examinations.

MOLE.—Recently, Mr. Ernest Mitchley Mole, M.P.S., Peckham Road, London, S.E.15. Mr. Mole qualified in 1907.

REEVES.—Recently, Miss Olive Barratt Reeves, M.P.S., Lynton Lodge, Lyondstown, New Barnet. Miss Reeves qualified in 1922.

RIDLEY.—At 18 Scotland Road, Stanwix, Carlisle, on March 5, Mr. Thomas Ridley, M.P.S., aged eighty-five. After passing the Minor examination Mr. Ridley was for some time with Brady & Martin, chemists, Newcastle-on-Tyne, and later returned to his native town of Brampton to enter into partnership with his former apprentice-master. Mr. Ridley acquired about fifty years ago the well-known business in English Street, Carlisle, and in 1900 opened a branch at Botchergate, and in 1923 he acquired a business in Wigton. Mr. Ridley entered the City Council in 1906 and was elected an alderman in 1919. He became Mayor in 1919-20 and again in 1933, when the freedom of the city was conferred on him. Mr. Ridley was appointed a magistrate in 1921. He is survived by two sons, both of whom are pharmacists, and four daughters. The funeral took place at Stanwix Church on March 1, and was attended by the Mayor and Corporation.

THOMPSON.—Recently, Miss Blanche Emily Thompson, M.P.S., aged eighty-four. Miss Thompson, who was registered under Section 4 of the Poisons and Pharmacy Act, 1908, was for many years superintendent at the Out-patient Department of the Birmingham and Midland Hospital for Women.



MR. T. RIDLEY






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## COMING EVENTS

**Tuesday, March 18**

WEST MIDDLESEX CHEMISTS' ASSOCIATION, Oak Room, Palladium Cinema, Ealing, at 8 p.m. Annual meeting and election of officers.

**Wednesday, March 19**

LEEDS BRANCH, PHARMACEUTICAL SOCIETY, Metropole Hotel, Leeds, at 2.30 p.m. Mr. H. N. Linstead (secretary; Pharmaceutical Society) on "Current Pharmaceutical Problems."

TEES-SIDE BRANCH, PHARMACEUTICAL SOCIETY, Cleveland Technical Institute, Corporation Road, Middlesbrough, at 4 p.m. Annual meeting and election of officers. Mr. F. C. Wilson, Bradford (a member of the Society's Council), on "Current Pharmaceutical Topics."

**Thursday, March 20**

NORTH-EAST LONDON PHARMACEUTICAL ASSOCIATION, Gravel Pit Hall, London, E.8, at 3 p.m. Open discussion on current problems.

## NEW BOOKS

Wood, H. C. *Supplement to the United States Dispensatory (Twenty-second Edition)*. 10½ in. by 7 in. Pp. 76. 5s. J. F. Lippincott Company, 16 John Street, London, W.C.2. [Changes which have taken place in the U.S. Pharmacopoeia are quoted verbatim from the pharmacopoeial supplement in this volume and where the changes are slight only the new parts have been quoted. Short accounts of those drugs of the British Pharmacopoeia Addendum which were not included in the twenty-second edition of the Dispensatory have also been included. The texts on the chemistry of the vitamins and hormones have been almost entirely rewritten and information has been included on over forty drugs not previously described in the Dispensatory following a search of current literature on new remedies. Several pages at the end of the volume are devoted to notes on general test processes, reagents, etc., of the U.S.P. Second Supplement.]

## TRADE-MARK APPLICATIONS

(From "The Trade Marks Journal," February 19, 1941)

"WAHOHE"; for razors and razor blades (8) (IV). By Ryders, Ltd., 159 Duke Road, Western Avenue, London, W.3. 613,161.

"DIXOLITE"; for pocket electric torches (11) (IV). By A. S. Dixon, Ltd., 229/231 High Holborn, London, W.C.1. 613,060.

"PEGGY ANN"; for brushes (21) (IV). By Loewenstein & Hecht, Ltd., 41 Chiswell Street, London, E.C.1. 613,504.

"ALIMUL"; for dried milk in powder form (29) (IV); By Fitzroy Laboratories Ltd., Mount Pleasant, Alpertown, Wembley. 613,642.

(From "The Trade Marks Journal," February 26, 1941)

"PEN-TRA-TOL"; for industrial chemicals (1) (IV). By A. P. Mill, Raven Lodge, Prees Heath, Whitchurch. 613,235.

"SOLIXA"; for fertilisers, weed killers and insecticides (1) (5) (IV). By H. R. Napp, Ltd., 3 and 4 Clements Inn, Kingsway, London, W.C.2. 612,723 612,725 (both Associated).

"WELLA" (device of girl's head and word "Wella" in circle); for toilet preparations for the hair, hair-washing solutions, etc. (3) (IV). By Wella Rapid Ltd., 252 London Road, St. Albans. 613,523 (Associated).

Device showing sailing ship with word "CORNWELLS" on sail, the whole encircled by letter "C" (word and letter disclaimed); for all goods (5) (IV). By Cornwells (Wholesale), Ltd., 114 Leonard Road, Birches Head, Hanley Stoke-on-Trent. 613,306.

"STOCKSENSE"; for veterinary preparations (5) (IV). By Bob Martin, Ltd., Hoghton Street, Southport. 613,645.

"TENOBAN"; for pharmaceutical and veterinary preparations (5) (IV). By The Wellcome Foundation, Ltd., 67 Holborn Viaduct, London, E.C.1. 613,480.

"NUTINAL"; for all goods (5) (IV). By Boots Pure Drug Co., Ltd., 37 Station Street, Nottingham. 613,486.

"LEETEX"; for surgical articles made of india rubber (10) (IV). By Lea Bridge Rubber Works, Ltd., 122 Lea Bridge Road, London, E.5. 612,438.

"LACTOPHANE"; for cellulose wrapping paper (16) (IV). By British Cellophane Ltd., Bath Road, Bridgwater. 613,752 (Associated).

SPECIFICATIONS CANCELLED

No. 431,978 by T. McMullan & Co., Ltd., cancelled in respect of soaps; and No. 540,913 by The People's Pharmacy, Ltd., cancelled in respect of all goods except razor blades.



# THE CHEMIST AND DRUGGIST

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## The "C & D" Spring Number

For many years the publication of special numbers has been policy of THE CHEMIST AND DRUGGIST. The production of this Spring Number, however, has behind it a good deal more than tradition. While the literary pages will prove to be of practical service and interest to our readers, this number is a feature which reflects the strength and stability of the trade and its confidence in the future. From the support we have been given it will, we believe, be welcomed by the trade. The brake has been applied to the activities of some branches of the chemical and allied trades and industry, but we look forward to the time when they will be given the signal "full speed ahead." In the meantime, the industry as a whole, long since recognised as one of first national importance, is fulfilling its duties in no uncertain manner. The nation's war-time needs in "key" products of all descriptions is being met with ample supplies of standardised and first-rate quality. This is a record of achievement of which the leaders of the industry may well be proud.

We have endeavoured in this issue to present a wide range of articles which will appeal to all sections of the trade. On technical matters "Pharmaceutical Coal Tar Products" is both topical and instructive. The author of "Modern Colloid Chemistry" is an expert on this subject, while the article "Pest Control in Horticulture and Agriculture" may well suggest to retailers, particularly with the "Dig for Victory" campaign in full swing, a new source for business. In the sphere of commerce we present "Essential Oils and Substitutes," a brief review of the position of these products and substitutes now available. "Retail Photographic Trade" is a reminder that even in war-time there is a certain amount of business to be done. All sections of the trade will congratulate one of our leading manufacturers of pharmaceutical products on their bi-centenary. Our brief story is a record of steady progress over two hundred years, characterised by enterprise based on sound business methods. With any of the Continental spa waters now "off the market" it is pleasing to learn that the waters of one of Britain's oldest spas is being developed commercially. Retailers will be

interested in "Maintaining Spa Water Sales." With the home trade restricted manufacturers of perfumery and toilet preparations are concentrating on increasing their sales overseas and we publish "Perfumery and Toilet Preparations Exports" in support of this movement. It is probable that very few of our readers have visited Siam or, as it is now known, Thailand. "Impressions of Thailand," written by a pharmacist who has lived in that country for some years, is topical and packed with interest. We give pride of place to the Royal Navy and the Forces in that typically British adventure in the Lofoten Islands. Our article, "British Forces raid Lofoten," makes cheerful reading. For more years than we care to recollect, we have written prosaic trade reports on "Finest Lofoten steam refined non-freezing medicinal cod liver oil." Little did we think in those times that today we should be publishing an article where this product would form the background of still one more of those brilliant feats of British arms.

These articles, with all the regular trade news items and reports, comprise our Spring Number, and we would like to thank those firms and members of the trade who have assisted in its production with their contributions.

## Concentration of Industry

AN outline of the Government's scheme for the concentration of production was given in our last week's issue, p. 139, the sum total of which was the reduction of civil consumption to release labour, materials and factory space for more essential war purposes. In his endeavour to impress upon industry the urgency of the problem the President of the Board of Trade met representatives of the trade Press last week to elaborate the Government's policy and to discuss various matters which required clarification. It will be recalled that Captain Lyttelton, in his recent statement to the House of Commons, condemned as undesirable and uneconomical any attempt to reduce civil consumption by large-scale part-time working—a policy which does not have the required effect of liberating vital factory and storage space—and that the remedy for this was to concentrate production in a reduced number of factories working full-time. In this way output for Government requirements, export trade and civil needs should be ensured.

Appreciating the numerous difficulties which will be encountered by industry in complying with the Government's policy, the Board of Trade makes it clear that much flexibility will be permitted in working out the details of the scheme, and to this end discussions will be started as soon as possible between the Board of Trade in association with the Ministry of Labour and representatives of the industries concerned. Assistance will also be given in these negotiations by the Export Council—now renamed the Industrial and Export Council to suit its expanded responsibilities. The industries mainly concerned in the new scheme are those which are already affected by the Limitation of Supplies Orders or by the rationing of raw materials, as these industries provided the main sources of factory trained labour for munitions, but in no case is it the intention of the Government to bring about the closing down altogether of any one industry. So far as the drug and allied trades are concerned the new scheme will apply to the cosmetic, toilet and sick-room requisites and photographic industries, i.e. to the manufacture of goods which come within the scope of Classes 8, 12, 14, and 16 of the Limitation of Supplies Order. Small-scale manufacturers, to whom the latter orders do not apply, will not be affected immediately. It should be noted that the Government's policy does not require the formulation of schemes for whole industries or sections of industries, which of course would involve delay which would be a fatal obstacle to the achievement of the main objective, that is a large measure of concentration of resources in the shortest time. Once the degree of concentration has been settled in consultation with the industries concerned, the Government urge individual firms themselves to tackle the matter without delay. For instance, there is no reason why an undertaking with three factories at work on a part-time basis should not play its part immediately by arranging to close down one of them, thereby concentrating production in two of them, assuming that this gives the required degree of concentration. Nor is there any reason why three individual firms, small or large, should not take a similar action by arrangement amongst themselves. Such arrangements would, of course, be subject to the concurrence of the Ministry of Labour on questions



of labour and of the Board of Trade. Once the arrangements are confirmed, the firms will qualify immediately for the privileges to be given to "nucleus" firms, which mean that, (a) firms will be eligible for inclusion on the list of protected firms, resulting in a lower age of reservation for its workers than if it were not, and the fact that it is on the list will be taken into consideration in dealing with applications for deferment; (b) the Ministry of Labour will safeguard the labour requirements of these firms in appropriate cases upon the recommendation of the Board of Trade; (c) Government orders will, as far as possible, be given to these firms; (d) the Board of Trade will prevent the factories, so far as possible, from being requisitioned; (e) help will be given to these firms to safeguard, as far as possible, their supplies of raw materials.

It will be of interest to manufacturers to learn that under the scheme goods will be allowed to be produced under their branded names wherever possible, and it will be the duty of any amalgamation of firms to preserve the goodwill of all the parties concerned. To the Board of Trade is entrusted the task of co-ordinating the requirements of all Government departments for factory and storage accommodation. Power is vested in the Board of Trade under the Defence Regulations to ensure that the present recommendations of the scheme are put into effect—supply of raw materials, labour and plant being already under Government control, but it is believed that the industries concerned will be ready to respond and a step in this direction has been taken by representatives of the Federation of British Industries who have expressed their readiness to assist their members in working out the requirements of the scheme.

### War Damage and Rent

THE question has recently been raised and determined in the Courts as to the position of a tenant of property which has

suffered war damage in cases where rent is payable in advance under the terms of the lease. It may and indeed is almost bound to happen in such cases that if the tenant disclaims the lease by serving a notice of disclaimer, the tenant will still be liable for rent in respect of a period during which the lease is no longer existent. And in this respect the position of a tenant who pays rent in advance is not so advantageous, as far as war damage is concerned, as the position of a tenant who pays his rent in retard, at the end of the month, quarter, or other period. Where rent is payable in retard, the tenant whose property suffers war damage can easily terminate his liability for rent by serving a notice of disclaimer. If the notice becomes effective and his lease is accordingly disclaimed the liability for rent will cease as from the date of the notice. If on the other hand the landlord serves a notice to void disclaimer and thereby prevents the lease from being disclaimed, the liability for rent will equally cease from the date of the tenant's notice of disclaimer, though rent, of course, will become payable once more from the date when the premises are made fit. But let us examine the tenant's position where rent is payable in advance. Suppose that a quarter's rent in advance falls due on September 29, and say on October 1, the premises suffer war damage and the tenant immediately serves the landlord with notice of disclaimer on the same day. Normally, if the landlord did not serve a counter notice, the lease would terminate on October 1 and no further rent would be payable except for the three days September 29 to October 1. But as the rent has fallen due in advance on September 29, the tenant, it has been held, is liable for the full rent, that is, for the period September 29 to December 25. The tenant must still pay this rent although he serves notice and although, taking the example given above, the lease ends by virtue of the notice of disclaimer on October 1. In other words, the tenant has to pay rent as well for the period October 1 to December 25.

## PHARMACEUTICAL COAL TAR PRODUCTS

MANY pharmacists while at college may have stood intrigued before a picture of a queer tree. No connexion with their botanical studies, but labelled "Coal Products Tree." This diagrammatic illustration of the diversity of coal-products provided a fascinating memory aid for the perplexed student who felt that here at last a complex branch of chemistry was reduced to something like order.

The largest side branch arising from the main trunk of the tree was labelled "Coal Tar"—in itself only one of many products derived from coal. Secondary branches from this illustrated coal tar derivatives, and further smaller branches from them ramified into ultimate products and groups of products. This chart was produced before today's younger generation of pharmacists was born, and even then the ultimate products could not all be readily indicated, although in many cases the final small leafy branches only represented groups of allied chemicals. In the subsequent period the development of coal tar derivatives has been greatly intensified, and they enter every phase of industrial production. The majority of organic chemicals in pharmacy, as in practically every industry, start from one of the coal tar constituents.

**Medicine and Industry.**—Chemotherapy has been largely responsible for the development of such coal tar derivatives for medicine. The student of chemistry on his way to enter pharmacy or medicine learns early how chemically related compounds are likely to have related therapeutic properties, so that by using a series of homologues or building up successive derivatives, desirable properties can be increased or disadvantages from the therapeutic point of view can be decreased. Just as physiological action and chemical constitution are correlated, so with other properties, and the same elaboration of organic chemicals arising from the almost infinite variety in combining capacity of the carbon atom is carried out to attain physical characteristics, solvent properties and other qualities desired by industry. All sections of industry, in the same way as medicine, are continually calling on their research workers for new organic chemicals with fresh combinations of properties. The products used in most of the recent developments of industry such as plastics and rubber have been developed on an enormously extensive scale from coal tar products. A study of these chemicals makes one think that organic chemists are well nigh able to mould the coal tar chemicals to their will, and can produce a substance of practically any desired properties. Thus the survey of coal tar

products covers many pharmaceutical substances, but also ranges over every field of industry. Many drugs are themselves used for purposes other than medicinal, and pharmacists may find it instructive to realise that such chemicals often pour into commercial processes in such quantities that the pharmaceutical use is entirely dwarfed.

**Phenol and its Derivatives.**—One of the simplest derivatives of coal tar is phenol. Pharmacy uses this in moderate quantity, but the supply to all the hospitals and pharmacies of this country is a drop in the ocean of industry's requirements. One of the biggest recent developments using large quantities of phenol is the plastics industry, in which the most important synthetic resin is a condensation of phenol and formaldehyde. This is encountered universally today, and, looking round the pharmacy, caps of this phenol compound in many colours for bottles and jars, combs, door knobs, showcase fittings and all kinds of smart articles and adjuncts in brilliant colours strike the eye as an outstanding improvement on the materials used not so many years ago. To take up again the idea of the chemical tree, another secondary branch is now that of the chlorinated phenols, wherein the principles of chemotherapy are applied by chlorinating successive carbon atoms of the benzene ring, thus developing desired properties. Trichlorophenol was used as a preservative in certain industries such as the leather trade, and today the more highly chlorinated pentachlorophenol is coming to the fore as an even more potent preservative. The sodium salt of pentachlorophenol is increasingly used to eliminate and prevent slime, protozoa, bacteria and other growths in industrial water systems, and in leather, paint, timber and many other industries. Like so many of the coal tar constituents, phenol is also built up into a large range of dyes, and from nitrated phenol the photographic developer metol is reached. Nitration of phenol also gives rise to picric acid. This is rapidly passing out of pharmacy since better treatments for burns have come to the fore; but it still has its uses as an explosive, and air-raid precautions *personnel* unfortunately have to consider chloropicrin, a powerful tear gas, which is made from it. Another branch of the phenol derivatives leading in many cases beyond pharmacy starts with the salicylates. Salicylic acid leads to many azo dyes, and also provides salicylic esters, such as amyl salicylate, which are important to the perfumer. With formaldehyde it yields a resin soluble in alcohol, which has been taken up by the leather trade, and assists in the preparation



of felts for hats. Methyl salicylate has uses other than those due to its anti-rheumatic value, for it has special solvent properties which make it a valuable constituent of penetrating ointments. Aspirin as the most useful pharmaceutical derivative of phenol scarcely needs further mention here, but it does also go to other industries, though the output for medicinal purposes in this case overshadows the other uses. Many hundreds of tons of aspirin are produced annually to reach the consumer as mere 5-grain tablets. This account cannot deal with any appreciable proportion of all the uses of phenol. Coal tar distillation, being on an immense scale in an important coal producing country such as Great Britain, provides thousands of tons of phenol per annum, but the ever-growing demand for this basic material has given rise to the manufacture of synthetic phenol to supplement the straightforward output from coal tar.

The higher homologues of phenol such as cresol and xylenol are useful coal tar constituents, which similarly give rise to a great many valuable derivatives finding their way into pharmacy for their antiseptic properties, and into industry when developed in various complex ways. Originally cresylic acids, which are commercial mixtures of these higher homologues of phenol, were distilled from coal tar in horizontal retorts; but vertical retorts have come into use as functioning more satisfactorily from the mechanical point of view. The cresylic acids thus obtained are, however, lower in Rideal-Walker value, and hence less suitable for making the black and white disinfectants which on account of low cost find such a wide use as cheap sanitary fluids. Chlorination of phenols raises antiseptic value and at the same time lowers relative toxicity, these changes being controllable by the extent of chlorination carried through. This process is becoming recognised as a very valuable way to increase the disinfectant value of such cresylic acids, and to compensate for the changes in cheap disinfectant raw materials due to plant developments introduced to secure other manufacturing advantages. Cresol is a mixture of three isomers with the hydroxyl group in the ortho, meta and para positions. These three compounds each have slightly different properties and industry frequently wants them separated to provide precisely the right type of raw material. Thus the plastics industry finds that cresylic acid rich in meta cresol provides a fast-setting resin and ortho cresol predominance gives a much slower setting product while moulding is carried out. Each of these cresylic resins thus has its value according to the industrial use. Being slower-setting while undergoing the moulding process, resin with a high ortho cresol content retains some of its plastic property and thus is a suitable material in brake linings, whereas the resin from meta cresol rich in cresylic acid gives a hard-setting resin, which takes a brilliant finish and is resistant to wear and scratching. Ortho cresol is also used to produce tricresyl phosphate, a valuable plasticiser and fire retardant for plastics. Para cresol is built up into a commonly used butter colouring, valuable of course to the margarine manufacturer. Meta cresol is the starting point for making musk ambrette, or synthetic musk.

Purified higher homologues of phenol such as cresol and xylenol are specially chlorinated to provide materials of very high antiseptic value and low relative toxicity, thus suitable for internal use. Parachlormetaxylene is the main active constituent of many of the non-poisonous disinfectants which have become so popular in the past few years. Parachlormetacresol has similar advantages and is used as a preservative in pasta acid, tannic, being raised to official status in the recent Addendum of the Pharmacopœia. In addition to its value as a pharmaceutical preservative in this way, it is used as an industrial preservative in glues, pastes, distempers, inks and other watery products which are liable to develop mould. Although solubility has been decreased by chlorination of the cresol, this is compensated for by the higher antiseptic value.

**Manipulating the Benzene Ring.**—Benzene was indicated above as another primary coal tar product which has enabled industry to supplement the natural production of phenol from coal tar, as demands increased. Pharmacy knows benzene as a solvent for oils and fats, and of course many industries use it on a large scale for the same purpose; but as with phenol, it can be developed infinitely into other compounds, by building on to the versatile benzene-ring structure. Nitration produces nitrobenzene or oil of mirbane, used as a cheap perfume reminiscent of almonds in products such as household soaps, shoe polishes, etc. Paranitrochlorobenzene is a basic product for the manufacture of phenacetin, and as with the other coal tar products, a wide range of dyestuffs is built up

from benzene. Aniline, an important starting point for a wide range of useful chemicals, is but a short development from benzene. It gives its name to the important aniline dyes, and it is used in the rubber industry. The rubber chemist here has again employed his power to manipulate the benzene ring, and has built up a large group of aniline compounds, many containing sulphur, to act as accelerators for the fundamental vulcanising process. These compounds are produced in immense quantities, and constitute a field of which the pharmacist is scarcely aware, although they play a vital part in giving the desired qualities to so many of the articles he handles.

Toluene, another hydrocarbon from coal tar, starts a long chain of development. Apart from dyestuffs which the reader may now wish to take for granted, saccharin has toluene as a parent substance, reaching its final structure through a series of characteristic organic reactions. Actually the high price of saccharin today is not due to a complicated manufacture, as might be casually assumed from the present price of the tablets. It is produced at a reasonable cost, but is subject to a heavy excise duty, a point which is liable to be forgotten when the product finally reaches the customer over the pharmacy counter. Nitration of toluene produces T.N.T., the most widely used explosive of the last war, and still in great demand. Largely on this account, coal tar today is not able to furnish enough toluene to meet demand, and America is taking steps to supplement her output by production from petroleum instead of coal tar.

**Naphthalene as a Starting Point.**—Among the other important coal tar hydrocarbons is naphthalene. Pharmacists think of this primarily as a moth preventive, and possibly are just aware of its use in firelighters; but a far larger use than these is as the starting point for the phthalic compounds. Phthalic anhydride is manufactured on a very large scale by oxidising naphthalene, and is one of the most important substances used in the plastics industry. It provides the phthalic esters, which are used as solvents and plasticisers for controlling the properties of the ultimate synthetic resins, and to enable them to be operated satisfactorily. Condensation with glycerin yields the useful glyptal resins for the paint industry. From phthalic anhydride, benzoic acid is also derived on the commercial scale, though some manufacturing processes use toluene as a starting point. Pharmacy recognises benzoic acid and sodium benzoate as pharmaceutical chemicals, but much larger quantities go into other industries. Benzoic acid is further elaborated into dyes, and in itself is a valuable thixotropic agent for the paint manufacturer, that is it adds smoothness and free-flowing properties to his products. It also acts as a retarder in rubber vulcanisation, and serves as a catalyst in some synthetic rubber processes. Such diverse uses indicate its versatility. Products of importance, though less so than the hydrocarbons, are the bases pyridine and quinoline found in coal tar. Pyridine is a very useful solvent, and is remarkable in dissolving many metallic salts such as silver nitrate, while it is also miscible with water, alcohol and many other solvents. It can be built up to piperidine, which was one of the first accelerators used in vulcanising rubber, and became the starting point for building up even more useful accelerators; these factors account for the rubber industry's large consumption of this substance.

**By-products from Waste.**—These are but a few of the apparently infinite uses to which coal tar derivatives are put, and development of new compounds proceeds at an ever-increasing rate; industry seems never to rest satisfied that available materials are the best that can be devised for its purposes. Still further combinations of physical and other characteristics are called for. Certainly the reduction of this immense range of chemicals to a comparatively simple diagram must now leave out far more than can be included, and moreover condensation between already complex chemicals derived from different branches now intertwine the originally simple structure indicated by the Coal Products Tree, until it is no longer recognisable as such. One may leave this fascinating subject which can lead into every branch of material activity with the reflection that not so very long ago that astonishing mixture called coal tar was a waste product in the coal gas industry. From a by-product, it has changed to the invaluable source of most of the organic chemicals in commercial use, contributing everywhere to mankind's well-being; their infinite variety and usefulness testify to the skill and ingenuity of the research chemists who today work in close contact with every branch of industry.



# IMPRESSIONS OF THAILAND

by A. H. Hale, M.P.S.

**S**IAM, or Thailand as it is now called, is frequently in the news these days. Some time ago the Siamese changed the name of their country to Thailand, following the example of Mesopotamia changing to 'Iraq, Persia to Iran, and Russia to the Soviet Union. Why the Siamese did this is a little difficult to understand, as they themselves always referred to their country as Muang Thai, meaning "the Land of the Free." I have not heard if they wish to be referred to as Thaise or Thaianians. The pronunciation of the word Thailand has given rise to difficulties; the "h" is not sounded as in our "th," but is inserted to show our "t" sound as distinct from a soft "t" approaching the sound of "d."

This country, the last small independent state in the Far East, is bounded on the north by the French Lao States and Burma, on the west by lower Burma and the Bay of Bengal; on the peninsula it is bounded by the Malay States, and on the east by the Gulf of Siam. On the eastern side of the Gulf of Siam the country is bounded by Cambodia. It is on the east side that Thailand has claimed territory from Indo-China, Cambodia and the French Lao States, which she lost some forty years ago. Cambodia and the Lao states are not without interest to pharmacists, as these places produce a number of crude drugs. From Cambodia and Siamese territory bordering on that state comes gamboge, the name being derived from Cambodia. This district also produces castor oil seeds, cardamoms, pepper, chillies and other spices.

**The Ruins of Angkor.**—It is in Cambodia that the famous ruins of Angkor are situated. These ruins, the remains of a once powerful and populous empire, are among the largest and most imposing in the world, but until the French obtained possession of this province they were buried in the heart of the jungle. Since the French took over the area they have been constantly clearing the jungle and replacing the fallen stones. The walled city of Angkor Thom has been partially cleared of trees and the most imposing ruins give some idea of the magnificence of the place some 800 years ago. Outside the city walls is the largest and best preserved of all the numerous temples, the famous Angkor Wat. This temple has had special attention from the French archaeologists and it now stands revealed one of the most magnificent ruins in the world. It was built about the middle of the twelfth century and is possibly the last of the great temples. Some idea of the size of this temple can be gained by the length of the cloisters which surround the temple proper. These are not far short of three-quarters of a kilometre in length and the inside walls of the cloisters are decorated in high bas-relief with carvings from the floor to the roof depicting scenes from the Indian epic Ramayana. The carvings are in the main in an excellent state of preservation and wonderfully executed. One scene representing the churning of the "Milky Ocean" is about fifty metres in length. In the large temple in the city of Angkor Thom the carvings are of more homely kind. Fishing, cockfighting and other pastimes are depicted giving a picture of life as it was when the temple was built some 800 years ago. All over the north-east territory of Thailand are the remains of temples and cities buried in the jungle. The Siamese have done little to explore or clear these ruins, due possibly to lack of funds and also because the Siamese prefer to build new temples rather than restore the old ones.

The French have built hotels, rest houses and roads in order to attract the globe trotter. In this they have achieved some success, but Angkor is off the beaten track, and so is less known than it deserves to be. Whatever happens to territory recently in dispute, Angkor will remain a monument to the French. The writer visited these ruins some years ago and was able to see them in comfort by use of his own car and accommodation in the modern comfortable hotel quite close to the ruins. Another visit to a ruined temple in the north-east part of Thailand entailed a journey of three days each way, one day by rail and two days' walk through the jungle. All food and equipment had to be taken from Bangkok and ox carts carried it from the railhead to the destination. This ruined temple and city was contemporary with Angkor Wat

and although not on such a large scale is a perfect gem of Khmer architecture.

**Benzoin and Sticklac.**—Further north, in the province of Luang Prabang, now under French rule, is a small area in which benzoin is produced. This benzoin, known in commerce as Siam benzoin, comes solely from this province. Although benzoin-producing trees have been reported by forest officers as occurring in Siam, no benzoin is produced. Formerly all benzoin was exported through Bangkok, now only small quantities

find their way from Luang Prabang down to Bangkok. The French have made Saigon the place of export and endeavoured to change the name to Saigon benzoin, but the name Siam benzoin still persists.

In the north and north-east of Thailand large quantities of sticklac are produced. It is exported to India, where it is turned into shellac. The chief exports of Siam are rice, teak, tin and rubber. The commerce of the country until recently was largely in the hands of foreigners. The Chinese dominate the rice milling and export of rice, while teak, tin and rubber are largely in the hands of Europeans. These industries require capital to work them; which the Siamese are unwilling or unable to supply. The Siamese hitherto have not shown much enthusiasm for mercantile careers. A former British adviser once said of the Siamese, "the spirit of commerce has passed them by." Some years ago the absolute monarchy was abolished and a democratic government formed. This new government has not been so willing to grant concessions to foreigners, but has endeavoured to stimulate Siamese enterprise.

**Imitation Without Scruple.**—For many years the Japanese have been making headway in the matter of importing goods into Thailand. They started with piece goods, followed it by hardware, and have made great headway in drugs, chemicals and medicines generally. All the well-known synthetic drugs of Europe and America are imitated, many of them most flagrantly, so that it is difficult for the purchaser to distinguish the imitation from the genuine. Trade marks and labels are copied, giving endless trouble and expense to the agents of the original products in tracing their source. The present interest of Japanese in the Thailand-Indo-China dispute is not without significance. In return for their self-appointed role as mediators in this dispute they will doubtless extract concessions and trade rights which the Siamese of recent years have been unwilling to extend to foreigners.

Thailand is larger than many European countries but has only one town of considerable size: Bangkok. Bangkok is known to



Exterior of the British Dispensary, Bangkok





ASPECTS OF THAILAND

1. Interior of the British Dispensary, Bangkok. 2. Administrative block, Chulalongkorn University. 3. Group photograph of the second annual meeting of the Siamese Pharmaceutical Society; the president (since deceased) is seated, the author standing behind. 4. Leaves of "traveller's palm" at porch of temple of the emerald Buddha, Bangkok; travellers can quench their thirst by breaking leaf. 5. Canal scene, with bridge of shops, Bangkok. 6. At the statue of the hermit Phra Rasi; herbs and leaves are crushed on slab at foot of statue, at same time as prayer is offered up. Phra Rasi may be regarded as patron saint of Siamese medicine.





the Siamese as Krung Dhep, but so far they have not enforced this name on the outside world. The population is well over half a million, of which a considerable number are Chinese, or of Chinese origin. Many Chinese have adopted Siamese nationality and have become prominent Government officials. Indeed a large number of present-day Siamese officials have Chinese ancestors. Mixed blood is no bar to advancement in Government positions. Bangkok is one of the most interesting cities in the East. To attempt a description of it is beyond the limit of this article.

**Pharmacies in Bangkok.**—What strikes the visitor in the New Road, the main thoroughfare, is the number of shops apparently Chinese-owned. Pharmacies are well to the fore and are nearly all called dispensaries. Some years ago there were British, French, German and Japanese as well as Chinese and Siamese in this thoroughfare. In one stretch the writer once counted no fewer than fourteen dispensaries in less than a mile all dealing in what one might term western medicine. In the same stretch there were a number of Chinese shops dealing in purely Chinese medicine and a few shops selling fresh plants, roots, etc., for use as medicine. The American missionaries were probably the first to set up dispensaries in Siam. They still exist in some of the country towns where they have done valuable work in relieving the sick and afflicted, but no American dispensaries are left in Bangkok. The British Dispensary has probably the longest continuous history and quite an interesting one. It was probably founded by a British doctor to the Court of Siam and was known as the Court Pharmacy. Later an American doctor, a former missionary, took it over. He was a graduate in pharmacy before taking his medical degree. He came to Siam as an American missionary but found that private work and Government positions paid better. He eventually died in Bangkok a very wealthy man, but let it be said to his credit, he left all his money in the country where he had made it, to various charitable and philanthropic institutions. After him a Scot owned the British dispensary and later took in French partners. The French partners eventually became sole proprietors with an English pharmacist as manager. Eventually the French proprietors sold it to a Chinese, who is the present owner. It still retains the name British Dispensary. Many of these dispensaries have quite large and imposing premises and it is amazing the variety of drugs and medicines obtainable in these pharmacies. Formerly many of them did a considerable business in the administration of injections of the arspheamine type. Many a time I have seen Chinese patients lying on the dispensing counter having an injection, but the introduction of a medical law has stopped this lucrative practice.

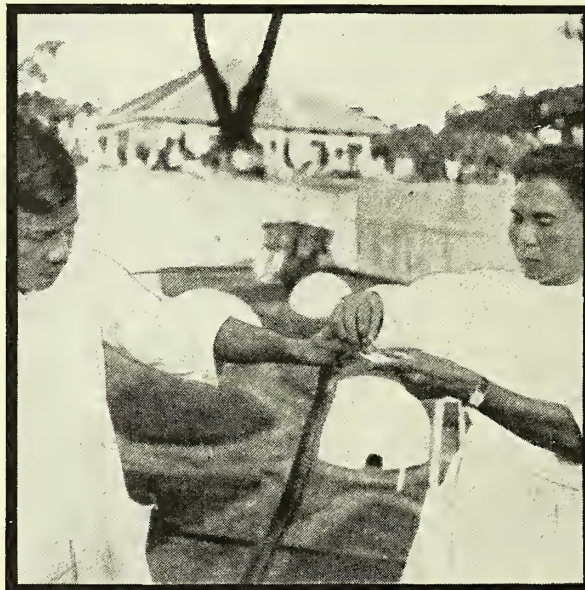
**Religion and Medicine.**—Bangkok is known to the traveler for its numerous temples, and some of these are interesting from a medical standpoint. Years ago education was in the hands of the priests and still is in some of the remote parts of the country. Many of the big schools in Bangkok are attached to temples, but they now have a regular teaching staff and the priests confine themselves to their religious duties. In one large temple in Bangkok there are a number of inscriptions relating to medical treatment. There are also a number of images illustrating systems of massage, an art in which the Siamese excel.

Some years ago the Rockefeller Foundation assisted in putting the medical school on an up-to-date basis by the assistance of funds and the supplying of foreign professors to fill the various chairs. The foundation also assisted Siamese doctors to take post-graduate courses abroad in Europe and America. The Government sent many Siamese to England,

the Continent and America to qualify as doctors. The Foundation has completed its task in medical education in Thailand and the country has now a medical school and hospital equal in equipment and doctors to any in the Far East. There is also a department of pharmacy in the University of which the writer was in charge of for sixteen years. Students were trained as pharmacists, chiefly to supply the requirements of the Government service. There was no great demand for them for the many pharmacies in the town as these places preferred to train their own assistants. With the coming of a pharmacy law and the prospect of other regulations concerning the sale of medicines the demand for qualified pharmacists is improving.

**Snake Venom.**—Bangkok possesses one of the earliest snake parks in existence. These snakes are kept for the supply of anti-venom for treatment of snake bites. Snakes are numerous in Siam. Even in Bangkok they are not at all uncommon, especially in the gardens and paddy fields on the

outskirts. The dangerous ones are the cobra, the banded krait, and the Russell's viper. The collection of venom from the snakes is one of the sights of Bangkok and takes place once a week, always drawing an admiring audience. The attendants walk into the enclosure with a nonchalant air. The snakes are generally huddled together under beehive-like domes. One of the men catches an armful of entwined snakes and throws them into the water. The reptiles swim around for a while and then crawl out without making any attempt to strike the attendants. One of them is selected and prodded with a stick to make it get into a striking posture. One of the attendants deftly seizes it by the neck close behind the head and forces open the mouth; another attendant places a petrie dish between the jaws and pressing on the base of the fang expresses the venom into the dish.



*Extracting the venom at a Bangkok snake farm*

Several snakes are thus treated and after each extraction of venom the attendant takes a large pipette, fills it with milk, forces the tube well down the throat of the snake several inches and blows the milk out of the tube. This is the procedure with extraction of venom from cobras. With the banded krait, a rather beautifully marked snake, the attendants are more cautious. Banded kraits are more deadly than cobras and more liable to bite. This snake park is attached to the Pasteur Institute, which also supplies anti-rabic serum.

**Recent Developments.**—Under the benevolent autocracy of the last four kings, Siam made great strides. Foreign advisers from many countries, ably chosen, and foreign civil servants gave great assistance during these reigns. Large numbers of Siamese were sent abroad to be educated and returned to Siam to serve the Government. Under the wise rule of her kings there was no oppression, taxation was light, religious toleration was shown by the large number of foreign religious missions in the country, and poverty and want probably less prevalent than in any other native-ruled country in the East. A few years ago some of the younger generation who had been educated abroad and had experience of democratic rule wished to have a part in the government of the country. A successful coup was effected and the Government changed, in which the people now have some voice in the affairs of the country. The new Government is gradually dispensing with the foreign civil servants and replacing them with their own nationals. Siamese industries have been started and efforts made to make the country less dependent on foreign supplies. "Siam for the Siamese" has been their slogan. I do not think the majority of the intelligent Siamese can view with equanimity the interest Japan is taking in Thailand. The country is rich in natural resources which the Siamese wish to develop for themselves.



# WAR-TIME COSMETIC FORMULAS

## IV.—Liquid and Cream Powders

**Powder Creams.**—Included in this group are creams that are used as a foundation for other make-up, and creams that are employed as a combination of vanishing cream and face powder. Preparations of the first type are sometimes slightly coloured, but more usually white, and are made with either vanishing cream or a base consisting of mineral oils. Such oils, however, should not be used in too high a proportion, otherwise they may cause "sweating"—the formation of beads of oil on the surface of the finished product. The use of zokerite (where available) in the base overcomes this tendency, and in addition ensures a product of creamy consistency and of high melting point. Soft paraffin can be used in the cream to impart the desired amount of tackiness. Where a vanishing-cream base is desired, care must be taken to select a non-saponaceous emulsifier (e.g. a self-emulsifying wax) for creams containing zinc oxide, as otherwise interaction may at a time take place, with formation of zinc stearate—a compound that tends to reverse the type of emulsion and form a water-in-oil cream, with consequent splitting. In creams containing such an emulsifying wax (e.g. cetyl alcohol, diglycol stearate) the emulsifier is dissolved in the aqueous mixture by the aid of gentle heat and stirred until the mixture is cold; finally the powders are added. Where inert powders (e.g. talc, kaolin, titanium dioxide) alone are used, a base of the stearate soap type may be employed.

Considerable variation in the appearance of the final product is attainable by altering the proportion of the powders, and it is useful to bear in mind, in experimenting with different formulas, that talc and kaolin impart a transparency to the cream, whereas zinc oxide and titanium dioxide increase opacity. Titanium dioxide is both more opaque and more inert than zinc oxide, and can therefore be used in smaller proportions to produce an equal degree of opacity. Colouring the powder creams is best carried out by mixing the colouring agent with the other powders and milling them into a cream, or, on a smaller scale, by grinding well in a mortar. The colours used are similar to those used in face powders, i.e. inert pigments such as oxides of iron, dyestuffs, lakes, etc. Colourings for every type of cream are now obtainable from manufacturers who specialise in cosmetic dyes, and little difficulty should be experienced in selecting a suitable tint. When soluble colourings are adopted, the dyes should be corrected for the continuous phase of the emulsion, i.e.

a water-soluble dye for an oil-in-water emulsion and an oil-soluble dye for water-in-oil emulsions. Care should also be taken to see that the colouring is stable to any free alkali, as occurs in creams made with saponaceous emulsions. Colourings that are not fast to light should be avoided, and it is useful to make a test of the light stability. A little preservative can be added to powder creams with advantage, 0.1–0.2 per cent. of propyl *p*-hydroxybenzoate being suitable amounts (the higher proportion for creams with a high fat-content). It is sometimes desirable to add to powder creams a small amount of wetting agent—of which several suitable types are on the market—to reduce surface tension between the cream base and pigments, and thus to facilitate the mixing process.

**Liquid Powders.**—In this group are preparations variously known as wet white, pearl white, stocking substitute, etc. All consist essentially of a colloidal suspension of an inert substance such as kaolin or titanium dioxide in an aqueous solution containing alcohol and a little glycerin. The powders should be selected for their state of fineness, so as to ensure prolonged suspension in the aqueous medium. Although zinc oxide has been employed, its use should be avoided if other materials are freely available, because it may occasion darkening of the preparation on standing. Among the bases principally used for liquid powders are titanium dioxide, kaolin, precipitated chalk, and talc. Bismuth subnitrate and carbonate, barium sulphate, and lithopone have also been used, but there appears to be little advantage in adopting one of these if the materials in the first group are available. Starch and saponin are also added occasionally to increase the adhering power of the powder but such substances, when used, should be employed with caution and in only small proportion, otherwise the final product may be undesirably sticky. Preparing liquid powders is straightforward. The powders are mixed thoroughly with the pigment colouring by grinding or milling, and the glycerin and part of the water added gradually to produce a cream, which is then diluted to the required volume with the remainder of the water. Where a water-soluble dye is used this should, of course, be dissolved in a little water separately, and the dye solution added gradually to the powders by thorough mixing before the bulk of the water is added. The required perfume should be added separately to any alcohol present, or, if no alcohol is used, triturated with the dry powders just before diluting with the glycerin and water. One of the alternatives suggested in an article on "Glycerin Substitutes" (*C. & D.*, 1940, II, 142) may be employed.

### POWDER CREAMS

1.				
Vanishing cream	..	..	..	70.0
Talc	..	..	..	24.0
Titanium dioxide	..	..	..	5.5
Perfume	..	..	..	0.5
2.				
Stearic acid	..	..	..	50.0
Oleic acid	..	..	..	10.0
Potassium hydroxide	..	..	..	2.5
Water	..	..	..	200.0
Prepare the cream and add:—				
Talc	..	..	..	50.0
Perfume	..	..	..	as required
3.				
Glyceryl monostearate	..	..	..	10.0
Glycerin	..	..	..	3.0
Heavy liquid paraffin	..	..	..	5.0
Spermaceti	..	..	..	5.0
Stearic acid	..	..	..	2.0
Potassium hydroxide	..	..	..	0.1
Water	..	..	..	48.4
Perfume	..	..	..	0.5
Titanium dioxide	..	..	..	6.0
Talc	..	..	..	20.0

Dissolve the alkali in the water and add all the ingredients except the perfume, together with any colour. Boil the mixture and stir constantly until homogeneous. Remove from the heat and stir until cold. Add perfume and put through mill.

4.				
Liquid paraffin	..	..	..	60.0
Soft paraffin	..	..	..	50.0
Hard paraffin	..	..	..	10.0
Ozokerite	..	..	..	30.0
Titanium dioxide	..	..	..	10.0
Zinc oxide	..	..	..	20.0
Kaolin	..	..	..	20.0
Talc	..	..	..	20.0

### LIQUID POWDERS

1.				
Zinc oxide	..	..	..	54.0
Bismuth subchloride	..	..	..	54.0
Glycerin	..	..	..	67.0
Perfume	..	..	..	as required
Distilled water	..	..	..	.. to 1000.0
2.				
Kaolin	..	..	..	18.0
Titanium dioxide	..	..	..	2.0
Glycerin	..	..	..	8.0
Water	..	..	..	71.5
Perfume	..	..	..	0.5
3.				
Titanium dioxide	..	..	..	5.0
Precipitated chalk	..	..	..	8.0
Kaolin	..	..	..	5.0
Glycerin	..	..	..	3.0
Rose water	..	..	..	79.0
4.				
Talc	..	..	..	10.0
Kaolin	..	..	..	5.0
Titanium dioxide	..	..	..	5.0
Glycerin	..	..	..	10.0
Rose water	..	..	..	64.0
Spirit	..	..	..	5.5
Perfume	..	..	..	0.5
5.				
Zinc oxide	..	..	..	6.0
Precipitated chalk	..	..	..	8.0
Kaolin	..	..	..	3.0
Zinc stearate	..	..	..	2.0
Glycerin	..	..	..	3.0
Witch hazel extract	..	..	..	10.0
Orange-flower water	..	..	..	68.0



# TWO HUNDRED YEARS OF PROGRESS

## The Story of the Development of Burgoyne, Burbidges & Co., Ltd.

**F**EW indeed are the business houses which can look back upon a century of continuous successful effort, but the celebration of the bicentenary of a business, even in this country, is so rare as to be noteworthy. Many of the houses which were established in the middle eighteenth century have long since passed away, unable to adapt themselves to the constantly rapidly changing conditions which have characterised the pharmaceutical and chemical industry.

Burgoyne, Burbidges & Co., Ltd., East Ham, London, which is celebrating its bicentenary this month, was founded in 1741 by Thomas Fynmore at 65 Aldersgate Street, E.C. From the outset the business appears to have been of vigorous constitution, and before the close of the nineteenth century, on two occasions new and larger premises became necessary to accommodate the rapidly developing business. Finally for a long period the concern was established at 16 Coleman Street, within the square mile forming the City of London.

### Early Recipe Books.—

The records of those early days have not been preserved, but the original recipe books in use in the year 1741 are still preserved at the works, and are a source of great interest to many visitors. Early in the nineteenth century, on the admission of Mr. Palmer to partnership, the style of the firm became Fynmore & Palmer. In 1812, Richard Hotham Pigeon (afterwards the treasurer of the Pharmaceutical Society) was admitted to partnership, with a corresponding change in the name of the firm; later Mr. Pigeon's son (of the same name) joined his father, and the style of the firm was again changed to R. H. Pigeon & Son. In the year 1851, Mr. Pigeon senior died, and unfortunately his demise was shortly followed by that of his son, leaving Mr. Burgoyne, who had meanwhile been admitted to partnership, as the sole proprietor. This gentleman took as partners Messrs. Thomas and Frederick Burbidge, and the firm became Burgoyne, Burbidges; in the late sixties these were joined by Dr. W. S. Squire, and his name was added to the title. This association was a short one, for in 1870 Dr. Squire decided to commence business on his own account in chemical industry. The need for the incorporation of directors possessing specialised technical knowledge was beginning to be felt, and in 1875 Mr. Thomas Farries, Ph.C., and Mr. Julius Cyriax were admitted as partners. The style of the firm was now Burgoyne, Burbidges, Cyriax & Farries; Mr. Cyriax died in 1892, and the later deaths of Messrs. Thomas and Frederick Burbidge left Mr. Thomas Farries for a time as sole proprietor, again trading under the name of Burgoyne, Burbidges & Co.

### Additional Partners.—

As the business progressed Mr. Farries took as partners the present governing director, Mr. R. G. Halstead, his nephew, Mr. H. R. Arnold (the late governing director), Mr. Gerald R. Moxon, and Mr. Charles S. Webb, who died in 1900. Following the usual course of development, the firm was registered in 1916 as a private company, with Mr. Thomas Farries as governing director. On the death of Mr. Farries in 1918, his place was taken by Mr. H. R. Arnold, and with the passing of Mr. Arnold in 1929, Mr. R. G. Halstead became governing director, a position which he still occupies. Mr. Halstead has lived through a great change in the work of the firm, and indeed in the whole industry. In the earlier portion of its career, the firm drew its supplies from all parts of the world, wherever the best could be found. Medical science was progressing rapidly, and the introduction of synthetic drugs brought into use many new products which at first were almost invariably of German origin and manufacture. This development had a great influence on the industry, and it became necessary to commence the development of chemical manufacturing. As time

progressed this change became more marked, and with the opening of the twentieth century it became clear that the future development of the company's work could not long continue in the confined space of the city premises.

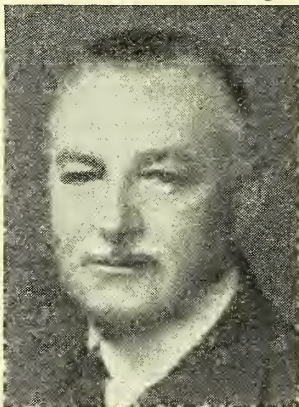
**Establishment at East Ham.**—In 1905 all the manufacturing departments were moved to a new factory erected at East Ham. From the outset every effort was made to ensure that the new factory should be ideally equipped for the manufacture of galenicals and chemical products. The original building consisted of three large halls which were conveniently divided into sections. For a time these were sufficient, but it was a short period, and it was found necessary to erect further buildings along each side of the site for specialised manufactures. During the Great War, the manufacture of chloral hydrate was successfully

established, and shortly afterwards a large department arose containing chlorinating sheds, still room, crystallising rooms, scrubbing towers, etc. Around this has grown the fine chemical manufacturing department, responsible for the manufacture of many products, a few of which are chloral hydrate, butyl chloral hydrate, bismuth salts, mercury salts, magnesium salts, aspirin, chloral formamide, mercurchrome, etc., etc. The pharmaceutical and inorganic chemical manufacturing laboratories are large and efficient departments, while during recent years special departments have been established for the manufacture of galenical products, medicinal

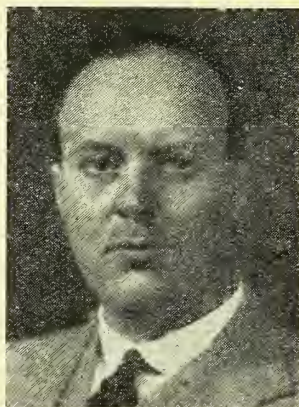
and veterinary capsules, salines and scale preparations.

The control of the quality of both raw materials and finished products is exercised by the analytical laboratory staffed by qualified chemists, and every effort is made to ensure that raw materials and finished goods shall conform to the highest standard of quality. The packing departments are extensive and equipped with up-to-date machinery, enabling an output to be given which but a few years ago would have been thought to be fantastic, while the store room of finished goods and the dispatch departments are adequate and excellently equipped. The pill and tablet manufacturing departments, which have recently been much enlarged and re-equipped with modern plant, are among the most interesting of all, and have proved capable of giving without undue strain the vastly increased demands of war-time requirements. The sundries and patents departments are quite separate from the factory itself and in normal times give an excellent service to the pharmacists and institutions throughout the country.

**Continuous Development.**—It has frequently been remarked by visitors that during recent years extensions and modifications have been continuously in hand. The progress of the present century has been marked in almost all industries by the development of large-scale production. Pharmaceutical manufacturing does not by its nature easily permit of the colossal large-scale continuous processes which characterise the manufacture of heavy chemicals, but it has not remained unaffected by this change, and during the past few years the manufacturing plant of the company has been largely renewed and reorganised so that today manufacture on a scale in some instances equal to ten times the capacity previously used is established. This increase in scale of production has been accompanied by improvements in the quality of finished goods, which is equal to that of any other house in the world. It is interesting to note that a department has been established, under the control of a fully qualified chemist, for the manufacture of essences and flavouring materials for the mineral water and the confectionery trades. The quality of the goods offered is such that a constantly expanding demand has been experienced and further additional accommodation has been provided to meet present and future requirements.



Mr. R. G. HALSTEAD  
Governing Director



Mr. H. HOUSLEY  
Managing Director



The necessity to provide for future development has not been overlooked, and research into the improvement of present processes of manufacture, and into methods of preparation of new lines, is conducted in a laboratory equipped with small-scale models of industrial plant.

During the period of the war, of necessity Burgoyne's must concentrate on meeting the important requirements of the Forces, but when hostilities cease all is prepared for further useful development which at present cannot be undertaken. For some time the factory presented an interesting spectacle to a student of organisation and development, for it was easy to watch the older methods and the newer proceeding side by side, until the older was superseded. Extension of manufacturing facilities to meet an ever-increasing demand finally required an extension of the stock rooms and dispatch facilities. Twice during the past five years additions have been made by the erection of large modern buildings, so that today the stock accommodation is not less than four times its earlier capacity, while the dispatch department has a capacity of more than double its previous output. Delivery is effected by

a large fleet of automobiles to all parts of Great Britain; in normal times they ran to a schedule which was almost as regular as rail service, and even today, despite the many difficulties with which manufacturers must now contend, they are giving an excellent service to customers.

All know that the East End of London has not been without its trials and sufferings during recent months, but despite these, a fine band of workers are doing and will continue to do their utmost to fulfil the heavy demands made upon them in these strenuous days. The firm is still a private company, maintaining as always the desirable characteristics of the old order alongside the efficiency of new methods. It would be difficult to find an industrial undertaking where the personal contact between an efficient direction and the workers is more close; the friendly family spirit prevails throughout, and is cultivated by all. Consequently the most youthful entrant to the business has always personal contact with and access to the management, and the directors, who themselves are practical men, frequently take their part in the everyday work of the various departments.

## PERFUMERY AND TOILET PRODUCTS EXPORTS

THE following notes on the subject of meeting the requirements of overseas markets have been compiled by the Perfumery and Toilet Preparations Export Group.

**Sales Policy.**—Manufacturers who have not, until recently, attempted to develop their export trade, but are now seeking to do so, no doubt wonder whether their products are suitable for the various overseas markets and if not, what modifications special packs, etc., should be introduced. This question is not so important a factor in the perfumery export trade as it is in many other industries, owing to the fact that the trade is already largely an international one, and the leading brands, the names of which are widely known throughout the world, rely for their sale to quite a large extent on the fact that they are consistently the same. It is therefore only those manufacturers who do not rely on a proprietary name for the sale of their lines who have to concern themselves much with the question of what the market needs. In selling proprietary articles abroad, the exporter's main problem is to create a demand among consumers for his brand which he can only do by undertaking extensive advertising campaigns, backed up, wherever practicable, by special sales efforts in the territory concerned, demonstrations, etc. Normally the building up of an export goodwill in proprietaries means that some years must elapse before any worth-while results accrue, though, no doubt, to some extent this period is shortened under present conditions when overseas countries are denied the continental brands they formerly purchased.

In the more developed countries it is the proprietary lines which are likely to stand the best chance of success. Unbranded goods are invariably handicapped in these countries—notably North and South America—by the high duties, import restrictions and local competition. Unfortunately, perfumery articles, being non-essentials, are always the first to be affected by increased duties and similar trade barriers. In markets to which these considerations apply, British goods are likely to sell largely because they are well known, or because they have been bought by visitors to England and carry with them a note of exclusiveness, or are characteristically English. Goods of the highest quality, appealing to the discriminating rather than to the ordinary purchaser, stand the best prospects. Conversely unbranded goods would probably stand the best chance of success in the less developed overseas countries, where price rather than exclusiveness is the main consideration. Whenever Europeans buy, they will generally speaking buy the type of goods acceptable to European tastes. To this one may add the also obvious qualification that British consumers throughout the world lean if anything towards the characteristically British articles with the more delicate or floral perfumes. In Latin American countries the demand is naturally rather more for the exotic article. The tendency in Eastern and other native markets is generally towards the most heavily perfumed range.

**Packings.**—Turning to the question of pack, there is little that need be said. The line which relies for sale on its name will rely very largely on its own pack throughout the world, subject to the obvious precautions to ensure that the pack guards against deterioration of the product in warmer

climates. In the unbranded lines, where price is the main consideration, packaging is not so vital a factor, but again precaution against deterioration must be provided. Stout outer packing is required to ensure safe transit, particularly as most of the products falling within the heading of toilet and perfumery preparations are so frequently shipped in cases containing a wide range of different lines, which do not lend themselves so readily to the snug packing possible to exporters who are dealing with one line only. Adequate packing is particularly necessary for perfumed spirits to ensure that they are acceptable to shipping companies. It may be mentioned that the Export Group is giving assistance to its members on export packing problems. The Group arranges for the issue of permits for timber for the manufacture of export packing cases and is also at the moment actively concerning itself with supplies of wood wool which many manufacturers regard as indispensable for packing. The Group is at all times glad to give any advice or assistance within its power to firms having export problems of any kind.

## COMMERCIAL NOTES

**Importation of Spirits into Nigeria.**—Medicated and perfumed spirits and spirits for scientific purposes are exempt from the regulation that prohibits importation into Nigeria of spirits containing more than 85 per cent. of proof spirit.

**Southern Rhodesian Foreign Trade.**—During 1939, imports of drugs, chemicals and fertilisers into Southern Rhodesia were valued at £475,507 against £425,997 in the previous year. Exports during the same period were valued at £46,653 and £56,783 respectively. The principal supplier of imported merchandise during 1939 was the United Kingdom.

**United States Essential Oils Exports.**—The following table gives exports of essential oils from the United States during the first six months of the years 1939 and 1940:—

Item	First six months of			
	1939		1940	
	lb.	\$	lb.	\$
Peppermint .. .. .	167,626	414,002	193,849	547,566
Spearmint and other mint oils	13,474	27,077	17,602	38,657
Citrus oils .. .. .	161,954	201,839	205,248	334,322
Other natural oils .. ..	414,989	341,348	568,300	569,777
Blended, compounded or mixed perfume-flavour oils ..	165,280	311,721	173,816	365,956
Total .. .. .	923,323	1,295,987	1,158,815	1,856,278

**Imports into India of Proprietary Medicines.**—The Import Trade Controller, Calcutta, has announced that patent and proprietary medicines may be freely imported into British India from all sources, provided a true formula is declared on the label and no proprietary interest in the formula is claimed, or provided the formula of the preparation is included in the B.P. The announcement states that a formula is deemed to be true if, without disclosing a full and detailed recipe of the ingredients, it indicates correctly all potent or poisonous substances contained in the preparation, together with an approximate statement of composition. If proprietary rights are claimed in the brand or trade mark, but not in the formula or preparation, the medicine is not necessarily classified as "proprietary."



## ESSENTIAL OILS AND SUBSTITUTES

ALTHOUGH manufacturers are preoccupied at the present time with the immediate problems of production to meet home and export requirements, the question of future supplies, particularly of essential oils and other perfumery products, is constantly in mind. Whilst it is generally accepted that conditions in the essential oil trade are not likely to improve until the war ends, it by no means follows that industry will be deprived of the raw materials it requires. A considerable amount of work has been done during recent years by British manufacturers in the production of artificial substitutes for those essential oils which are not readily obtainable in wartime, and whilst allowing for the fact that no substitute can ever completely replace the natural raw product, it must be conceded that some remarkably good imitations have been achieved. In the following notes the supply of leading essential oils is discussed and suitable artificial substitutes, where available, are described.

**Star Anise.**—Most of the anise oil imported into this country is used in the confectionery industry. A small proportion is employed in the manufacture of tooth-pastes, liquid dentifrices and as an ingredient in liqueurs. In medicine the oil is of minor importance as a simple aromatic carminative and mild expectorant. Practically all the commercial oil reaching this country has its origin in China and is the variety described as "star" anise, a product of the fruit of *Illicium verum*. Star anise fruit is produced chiefly in the Southern Province of China, particularly Kwangsi and the trade centres at Hong Kong, where much of the oil (of which the fruit contains about 5 per cent.) is distilled and shipments made. With regard to present supplies of the oil it can be stated that sufficient stocks are available in this country to meet immediate requirements. The future position, however, depends on several factors any of which may change from time to time.

**Bergamot.**—In common with other essential oils of Italian origin, supplies of this product were cut off as a result of Italy's entry into the war. The chief centre of the industry is Southern Calabria, in which district practically the whole of the supply of bergamot is produced. The oil—or "essence of bergamot"—is obtained from the peel of the fully-grown but unripe fruit of *Citrus Bergamia*, a cultivated form of citron, and is an extremely difficult product to "match" by means of artificial substitutes. The characteristic softness and sweetness of bergamot make its use in the manufacture of high-grade perfumery almost indispensable, and it is for this reason that high prices can be obtained for any stocks that may remain. With minor adjustments to working formulas, the synthetic products now being offered by British manufacturers should prove satisfactory.

**Cassia.**—This oil is one of the oldest spice oils and has been distilled from time immemorial by the Chinese from the leaves, leaf stalks and young twigs of *Cinnamomum Cassia*, the so-called Chinese cinnamon. The chief export centre for cassia oil is Hong Kong. The principal constituent of the oil is cinnamic aldehyde, which is usually present to the extent of about 75 to 80 per cent. While the present supply position is reasonably satisfactory and ample stocks appear to be available for all ordinary purposes, importation would naturally be affected by developments in the Far East and would usually depend on freight being available. The spot value of this oil has increased about threefold since the outbreak of war.

**Citronella.**—There are two principal varieties of this oil used in commerce, the Ceylon oil and that produced in Java. The most important constituents of citronella oil are geraniol and citronellal, which together may amount to about 93 per cent. of the oil. Ceylon citronella oil is almost entirely distilled in South Ceylon from the grass *Cymbopogon nardus*, while the Java oil originates chiefly in Java from the grass *Cymbopogon Winterianus*. Supplies of citronella oil can also be obtained from the Dutch East Indies. Both oils are largely used in perfumery, principally as a soap perfume. Citronella oil is one of the most important oils produced in the British Empire and there appears to be no particular difficulty at the present time in obtaining supplies.

**Geranium.**—This oil is largely used in the manufacture of high-grade soaps and other perfumery products. It is obtained by distillation from the leaves of several species of *Pelargonium*, the plants being cultivated for the purpose in France and certain French possessions. A considerable amount

of geranium oil is normally distilled in the South of France and Algeria, but the principal source of supply is the island of Réunion, which produces the Bourbon oil. Small quantities are distilled in Spain, Corsica and Italy. In view of the fact that practically the whole of the supply of geranium oil is, in normal circumstances obtained from France and French possessions, the problem facing consumers in this country is fairly obvious. It remains to be seen to what extent alternative sources of supply can be developed, and in the meantime the position created by lack of supplies can be relieved by the greater use of artificial oils now available from British makers at attractive prices.

**Lavender.**—The present position of lavender oil is much the same as that of geranium. Before the war much of the lavender oil reaching the British market had its origin in France, although small amounts were distilled in England and Italy. Several excellent artificial substitutes have been produced by British manufacturers, and consumers should find little difficulty in adapting their formulas to incorporate the synthetic product.

**Lemon.**—Before the outbreak of war much of the world's supply of this oil came from Sicily and Calabria. The oil is expressed from the peel and not distilled, so that it contains a small amount of non-volatile substances dissolved in it. The characters of the oil vary from year to year, but generally the greater part of the crop contains over 4 per cent. of citral the principal flavouring constituent of the oil. Lemon oil is used mainly for flavouring purposes and is of considerable value to the perfumer in the manufacture of certain types of perfume, such as eau-de-Cologne, etc. Since the entry of Italy into the war supplies of the Sicilian product have been cut off and values of any remaining stocks have increased considerably. Lemon oil is also produced on a commercial scale in California and two varieties, cold-pressed and distilled, regularly reach the British market. There are also stated to be considerable possibilities for the production of lemon oil in Palestine, and it has been suggested that fair supplies of a good grade of oil could be obtained from South Africa. The present production of South African lemon oil, however, is quite small. With regard to artificial substitutes a range of good-quality products is available from British makers.

**Lemongrass.**—This oil is mainly used in perfumery and as a source of citral. It is obtained by distillation from species of *Cymbopogon*, which is widely grown in India and Ceylon, the Straits Settlements, the West Indies and other tropical countries. There appear to be no particular difficulty in the supply position of this oil, but prices have increased considerably as a result of the war.

**Nutmeg.**—This very fragrant oil is mainly used as a flavouring agent, and in medicine as a carminative and mild counter-irritant. The nutmeg tree is a native of the Moluccas and other neighbouring islands, but varieties of the plant are now cultivated in Sumatra, Java, Singapore, Penang, Ceylon and other parts of the East Indies, and have been introduced into the Isles of France and Bourbon, Cayenne and several of the West Indian islands. The larger part of the nutmegs of commerce is still said to come from the Dutch Banda Islands. Nutmeg oil is usually obtained from the powdered seed by distillation with water, after removal of the fat. In normal circumstances most of the nutmeg oil of commerce is obtained from Holland, but since the occupation of that country by Germany, no supplies have reached the British market. A small amount of nutmeg oil is distilled in this country, but the quantity available is not nearly sufficient to meet the demand. The position of consumers, however, is eased by the fact that supplies are available from America. The price of this oil has increased about fourfold since the outbreak of war.

**Palmarosa.**—This oil is produced principally in British India from a variety of *Cymbopogon Martini*, and contains 85 to 95 per cent. of geraniol. The oil has a characteristic geranium odour and is largely used to obtain the odour of geranium and rose at a reasonably low price. As most of the oil reaching the British market has its origin in British India the supply position appears to be satisfactory.

**Peppermint.**—This essential oil is probably one of the most widely used products of its kind. It is an important ingredient of most tooth-pastes, dental creams, mouth washes and similar preparations, and is used to a very large extent in the manufacture of pharmaceutical preparations. Peppermint was cultivated in England as early as 1696 and



the English industry reached its height about the middle of the nineteenth century. The bulk of the world's supplies of peppermint oil, however, is distilled in the United States and Japan, although the English oil is perhaps the most highly appreciated. Some distillation is carried on in other countries, notably China, France, Italy, and Germany. Peppermint as distilled in the United States is derived from *Mentha piperita*, while the Japanese variety comes from *Mentha arvensis*. Under present circumstances peppermint oils from the United States, Japan and China reach the British market in fair supply, importation being controlled by licence.

**Petitgrain.**—The oil known as "petitgrain" is distilled from the leaves and young shoots of the bitter orange tree, *Citrus Bigaradia*, and reaches this country mainly from Paraguay. Under present conditions supplies of the oil are not plentiful and depend on the granting of import licences and the arrangement of satisfactory means of payment. Stocks in this country are stated to be low.

**Artificial Substitutes.**—While it is undoubtedly true that supplies of a considerable number of essential oils are insufficient in war-time to meet the demands of the various consuming industries, it is equally true to state that with the material available to them British chemists have been able to produce many substitute oils similar in character to those at present in short supply. In view of the demand of artificial substitutes the following comments from manufacturers and dealers in these preparations should prove of interest.

**W. J. BUSH & Co., LTD.**—It must be remembered that though the majority of the sources of supply of essential oils are cut off at present, there still exist many others which are often overlooked, but are valuable and regular suppliers of a very useful range of materials. The chief of these lie within the Empire, North and South America, Dutch East Indies, etc. With the materials available to us much work has been done to produce oils similar in character to those at present not available, by distillation, fractionisation, and other means of separation, the principles of certain oils are extracted, and when suitably blended with aromatic chemicals, enable us to produce an efficient substitute. Trutype oils are what we supply against any inquiries for essential oils. Trutype oils are natural in every respect and approximate closely to the essential oils they represent. The success of these blends is often due to the clever incorporation of aromatic chemicals referred to above and which we are largely manufacturing. It is not going too far to say that under certain conditions these oils are superior to the natural products, as they have a greater stability in use. By these means and with the oils still regularly obtainable, we feel confident that an adequate supply of a satisfactory range of perfume oils will be available to the manufacturing perfumer during the war.

**FIELD & Co. (AROMATICS), LTD.**—General speaking, the preparation of substitutes for essential oils and floral extracts is our speciality, and has been for the past twenty years, and we claim that our imitations are all built up on scientific principles as contained in the natural oils. Take for instance bergamot, of which we are offering an effective substitute. We are the only people in this country who for two years prior to the war imported a certain active principle of bergamot with which no one else over here is acquainted and of which the sole exportation from Italy has been confined to us. We therefore claim that our bergamot contains a certain percentage of the natural substance, which other imitations do not possess. As regards lavender, we are able to offer today a very close imitation of the so-called Mont Blanc type. With regard to possibilities of development of Empire sources, these are, of course, tremendous. Most of the Far-Eastern oils could easily be produced in Burma because a number of them are natives of that country. The question was raised by us about five or six years ago with the chief of the Botanical Institute in Rangoon, whom we supplied with a tremendous amount of data, but unfortunately the Government was not prepared to consider our proposition from a commercial angle. Now it is rather late, but even so preparations could easily be taken in hand so as to ensure supplies of certain oils within a comparatively short period from our own colonies.

**POLAK & SCHWARZ (ENGLAND), LTD.**—At present this company is able to supply substitutes for the following essential oils: Lemon, bergamot, camphor, pine, geranium, lavender, neroli, and otto of rose.

**P. SAMUELSON & Co.**—As your readers must know, there are really no perfect substitutes for a number of essential oils, such as bergamot and French floral products, and the only

substitute we have had much call for, and which we are able to supply, is an oil to take the place of lavender.

**STANDARD SYNTHETICS, LTD.**—We would say that just at the moment, there are numerous substitutes being offered for lemon, bergamot and lavender in particular, but in view of the position with regard to certain of the aromatic chemicals required, it is impossible to say whether supplies can be maintained, at least in quantity.

**R. C. TREATT & Co., LTD.**—We are sending you a sample of Bergamot ARCT which we are now marketing to replace the genuine oil. We are quite pleased with the sales we have made so far, and hope that they will continue. We are afraid that the development of Empire production of oils such as Kenya lavender and geranium is not likely to proceed fast enough to help the general situation for some time to come.

**WILSON & MANSFIELD, LTD.**—You ask us in the first place to suggest alternative oils for such essential oils the supply of which has now been cut off and quite frankly, with the possible exception that a certain limited amount of cold-pressed lemon oil can be obtained from California, and even this does not compare in quality, nor can it give the same results as genuine Sicilian hand-pressed oil, most of the essential oils now unobtainable are practically irreplaceable. Where, for instance, can you find a real substitute for bergamot? for lavender? not to mention numerous Grasse products, such as jasmin and neroli. This is not to say that some extremely clever and useful substitutes have not been devised, but they can never give the identical results, and, furthermore, their production depends upon a supply of a number of artificial products which are themselves difficult to obtain. As regards development of essential oils within the Empire, the principal obstacle would seem to be the laying down of capital for plant, etc., the output of which may only be saleable while present conditions last. As an example, we have connexions in South Africa from where we could obtain fair quantities of a good grade of lemon oil. The present output of the factory, however, is quite small and can only be increased by the provision of additional plant. The production cost of this oil is, however, much higher than that in Sicily and it would be a somewhat risky undertaking to incur considerable expense in laying down additional plant only to find that in a year or two its output was uneconomic.

**CHAS. ZIMMERMANN & Co., LTD.**—It is well known that with small exceptions essential oils are normally imported from countries all over the world. It is interesting to ask, therefore, what effect the war has had so far on a continuation of supplies, and alternatively, how the changed conditions affect industry. Three of the main outlets for these oils are perfumery, flavouring and medicinal. To dispose of the latter outlet, the position from a druggist's point of view, is fairly satisfactory, since practically all oils used in this direction are imported from places outside enemy or enemy-occupied territory, as a glance at any list of oils will show, if the reader is acquainted with their origin. The perfumer, however, is not quite so fortunate, since a number of the oils normally used by him are now shut out. The position, however, is not so serious as one might imagine since there are alternative sources of supply for some oils, whilst on the other hand great strides have been made in the synthesis of essential oils, and in this latter respect from the layman's point of view, it would be difficult to believe that some synthetic oils are produced without the aid of the natural product. Cananga, cajuput, citronella, patchouli, vetivert, and a second-grade Ylang, are obtainable from the Dutch East Indies, so there should be no acute shortage of these oils yet awhile. Patchouli and citronella are also obtainable from Empire sources, whilst a good grade of ylang is obtainable from Manila. Almond oil is produced to some extent in this country. Geranium and lavender oils appear to create the biggest problems because what quantities are, or have been, available, outside French or French colonial territory, are negligible compared with the total consumption. It remains to be seen how the alternative sources are developed. Here, to some extent, synthetic oils can alleviate the problem.

Lemon and orange oils are obtainable in U.S.A. and the writer believes there are good possibilities for these oils in Palestine. Tanganyika is also largely replacing Italy for supplies of bitter orange oil. We are getting somewhat used to lack of supplies of bergamot oil largely because some very good synthetic oils have been produced. The interesting point about perfumery is that manufacture is flexible, and it should not be very difficult for manufacturers to accustom consumers to the changing conditions.



## RETAIL PHOTOGRAPHIC TRADE

**A**LMOST every retail chemist today is in the position of the man who is about to open a new shop; he is trying to be hopeful that the venture is going to turn out a good one; that he will be able to make enough out of his turnover to keep his business going, but somehow he is just a little apprehensive, and now and then he becomes rather anxious because of certain queries which run through his mind. Questions such as: How can I be certain that the local people will want what I can show in the window? Is it going to be very difficult to estimate my wants of this or that article? These are the kind of little worries for which he can find no satisfactory answer, so he just shelves them and goes on hoping. The retail chemist, already established, is also troubled with queries which, although he finds them unanswerable, yet he cannot forget or consign them to the refuse heap of unconfirmed worries simply because he comes up against them nearly every day. He is constantly wondering how long he will be able to supply his regular customers with this or that line. He is concerned about this limitation of supplies. Will he be able to maintain his trade for those particular goods and which of his customers will he have to turn away? Will the purchase tax have a very bad effect on his sales? There is nothing to be gained by taking these worries too much to heart. Tackle every trouble when you meet it in the daytime when you are actually in contact with it and in the right atmosphere to arrive at a decision. This is written more particularly for the photographic chemist who has had in the past a fairly good turnover in cameras, apparatus, sensitised materials, chemicals and the many items which the keen amateur photographer is so ready to purchase. There is going to be a shortage of some of these supplies but we can be quite certain that whatever happens with regard to "limitations" and the purchase tax, amateur photography is not going to stop, and although sales may not total up to the average of the last few years, yet much good spade work can be accomplished which, when the days of peace are here again, will bring forth much good fruit.

**The Restriction "Bogy."**—Most photographic chemists will remember the succession of traders' worries which prevailed in the early days of last year; there was the "bogy" resulting from the request of the Government that, as amateur photographers would not be allowed to carry their cameras in certain prohibited areas, it would put a stop to all sales of films, that the D. and P. works and departments would be idle and, in fact, it was not worth showing anything photographic in the windows as there would be no buyers. Perhaps some have forgotten how the manufacturers got busy and had a clearer definition of the law broadcast and then issued a little brochure of places that were forbidden, and against this a very long list of places and studies that would enable amateurs everywhere to keep the cameras clicking. What was the ultimate result? Why, the "bogy" simply fell to pieces and in many districts throughout Great Britain the photographic season turned out to be a good one; there were places which had a thin time, but there was a very definite reason such as evacuation or a complete absence of holiday folks, but on the whole the season was not a bad one. Before leaving this point it is well worth while, at this time of the year, to give some consideration to and find out from the right authorities what restrictions there are concerning local photographing, for in some districts it appears to be a common opinion that any man or woman who dares to be seen with a camera is a spy and the police or military must be notified at once. This idea can do a tremendous amount of harm to a retailer; it is already causing even free-lance photographic journalists to hesitate making camera studies.

It would be a good move if every chemist joined his local branch of the P.D.A. and through the association contacted with the local authorities for a ruling; if it was found that amateurs would be permitted in certain spots, but other places were forbidden, then each chemist could have a list of both exhibited prominently in their windows. No one wants to give either the police or the military any more work or worry than they have at present, but neither do the police or military desire to curtail healthy pleasure or recreation.

The next query that has to be tackled is the one of supplies. It is generally known that certain goods will be difficult to obtain, supplies of others will be cut down to 25 per cent. of normal, and many will be obtainable as usual without

restriction. Just how long the "cut" will last we cannot say, but while we all are truly patriotic and wish to help our Government as much as we possibly can to get as many men and women as they want to win the war, yet we believe that the department concerned is very willing to consider the whole problem thoroughly if the case is brought to them through the medium of an association that is really representative of the retail trade. Here then is surely another reason why every chemist should be an active member of his local P.D.A.

Next on the list is the purchase tax query. It is a well-known fact that an Englishman will grumble, but in the end he usually pays. We have all by this time recognised that we have got to be taxed, and we are quite willing to pay because we are all anxious to do whatever we can to win this war, and if it means our last shilling then there it is. That is the spirit of all and therefore the purchase tax will not stop us spending for our hobbies and recreations any more than the amusement tax emptied our cinemas. It must be recognised that if we want to keep our minds and bodies in a healthy state it is necessary to devote a small part of our time to a pleasant occupation which is totally different from our regular employment, and we chemists must see to it that photography is not allowed to decline, for it is the one hobby that provides enjoyable and restful occupation to a tired mind and body. Doctors advise occupation of a recreative character as an antidote for nerves in these very trying nights when there is no desire to go out in the darkened streets; home photography can fill many evenings and can give a lot of enjoyment in the family circle.

**The Coming Season.**—Now come the important questions which most readers have already had in mind in turning to this article. Are there any amateur photographers with any spare time? Are they not all on war work of some sort? The answer is a simple one. Most of us have a little spare time. Certainly there are few who have not. Go to a cinema anywhere at almost any time and you will find a large number of people there with spare time on their hands. We have got to dispel this "bogy" of no time for recreational hobbies. Photographic societies almost everywhere have had a very good run during the winter months, very few have had to cease their activities, and the attendances have been good; not quite up to standard, but still good. Some chemists do not take any interest in their local society; surely this is wrong, for much can be learned from men and women who are using material which chemists usually supply. If we cannot attend the meetings it might be possible to send an assistant who will profit by gaining some technical knowledge from the lectures and demonstrations which are freely given throughout the session.

What have you got for dressing the photographic window? Probably you have been in the habit of showing a selection of cameras. This means that you must make some changes, for there is a definite shortage of such and it may be that the stock will be reduced to chiefly second-hand ones at somewhat high prices, but we have at last got to the time when we must realise that the possession of a camera does not necessarily make an amateur photographer. It may mean a new customer for the D. and P. department and perhaps the sale of half-a-dozen spools during the holiday weeks. Our job this year is to get hold of all who have cameras and turn them into working amateurs, i.e. those who will learn how to do their own work. Induce them to become members of the local photographic society where they can learn how to develop a film and make a print, to do enlarging and make pictures, and before very long those individuals will be spending more money on dishes, lamps, measures, and chemicals, of which there is no limit; they will be keen on the hobby all through the year. Your sales may fall for some things, but a few keen amateurs doing their own work will certainly help to compensate.

Finally, let everyone of us take the long view of things; the war is not going to last for ever, it is going to be finished in our favour, and we meantime have got to keep our businesses going, for not even a war can destroy photography—it enters so much into our everyday lives. Supplies of some goods will be short; so they will in other trades. Another point we must bear in mind is that it is almost certain there will not be the curtailment of holidays as in 1940.—J.C.C. (3/3).



## TRADE REPORT

Spot quotations for pharmaceutical chemicals, crude drugs and essential oils are for bulk quantities of standard quality. C.i.f. quotations do not include marine war risk insurance and other abnormal charges payable in the present emergency

28 Essex Street, W.C.2, March 12

THE volume of business transacted this week has been only moderate, but there has been a steady flow of routine orders for some products. Prices are generally firm, while a number of items continue in poor supply. Demand for PHARMACEUTICAL CHEMICALS remains on a fair scale, with the general tone of the market steady. An Order made under the Defence Regulations authorising the use in prescriptions of sodium bicarbonate, bromide, citrate and iodide in place of the corresponding potassium salts has been issued (see p. 151); this will no doubt stimulate interest in the sodium salts. ACETANILIDE continues to attract fair business at prices unchanged from those recorded last week. Prices of BARBITONE and SODIUM BARBITONE show a tendency to become firmer. Makers of BENZYL BENZOATE advise that they are in a position to supply for strictly medicinal purposes. Only small quantities of CAFFEINE are understood to be available, and prices are at high levels. As noted last week, British makers' prices for VANILLIN have been advanced; values are now steady, though supplies are limited.

### Crude Drugs

The week has been quiet, although a few items have been in rather better demand. Stocks of a number of drugs continue small, and replacements take a considerable time to arrive. The general tone, however, is firm, with some articles tending dearer. Spot supplies of AGAR are limited and held at former figures. CURAÇAO ALOES continues firm at the high prices recorded recently. A rather better demand is noted for ENGLISH ANTIMONY. Shipment prices for CARDAMOMS continue to be quoted at higher levels than those for spot. Stocks of CASCARA SAGRADA remain low, but values are unchanged. CLOVES are again dearer. Business in COLOCYNTH has been of a routine character and it is reported that most of the cheaper parcels have been cleared. ERGOT remains quiet. There appear to be no offers of GAMBOGE from source. GINGERS are in short supply, and purchases have been at steadily advancing prices. A fair amount of business has been done in CHINESE MENTHOL at increased prices. A substantial purchase of MERCURY from Spain is reported. All descriptions of PEPPERS have been in strong demand, and prices have advanced on the week.

### Essential Oils

Dealers report a rather slow demand during the past week; values, however, are steady. Quotations for English expressed ALMOND show no variation. ANISE (STAR) is firm and rather dearer on spot. BAY is fully steady as quoted. Spot prices of BOIS DE ROSE are maintained on a quiet market. CASSIA continues in good demand, with firm prices ruling. Little business is reported in EUCALYPTUS, but values are maintained. GRAPEFRUIT attracts a fair amount of business. Controlled prices for GROUNDNUT, LINSEED and OLIVE are unaltered. LEMONGRASS is firm. Business in PALMAROSA continues modest, with spot values slightly dearer. A fair amount of business is noted in CHINESE PEPPERMINT at higher prices.

### Exchange Rates on London

The following is a list of the chief Continental and other exchange rates at the opening on Wednesday morning:—

Centre	Quoted	Par	March 5	March 12
Belgian Congo	Francs to £	nominal	176½*	176½*
Buenos Aires	Paper pesos to £	—	17-04½*	17-04½*
Java ..	Florins to £	12-107	7-60*	7-60*
Lisbon ..	Escudos to £	110	100-0*	100-0*
Madrid ..	Pesetas to £	25-24½	40-50 official 40-55 voluntary	40-50 official 40-55 voluntary
Montreal ..	Dollars to £	4-86½	4-45*	4-45*
New York ..	Dollars to £	nominal	4-03*	4-03*
Shanghai ..	Per dollar	—	3½d.	3½d.
Stockholm ..	Kronor to £	18-150	10-90*	10-90*
Yokohama ..	Per yen	25.	1s. 1¼d.	1s. 1¼d.
Zurich ..	Francs to £	22-2115	17-35*	17-35*

\* Rate fixed by Bank of England. Bank rate, 2 per cent.

### Pharmaceutical Chemicals

BUSINESS is on a fair scale, the general tone being steady. Quoted prices show no important change.

ACETANILIDE.—Good business is passing at unchanged prices. B.P.C. crystals and powder, spot, about 2s. 4d. to 2s. 6d. per lb., according to quantity.

AMIDOPYRINE.—Dealers' prices steady; crystals, in one-cwt. lots, about 27s. 6d. per lb.; smaller lots, up to about 30s. per lb.; powder, 3d. per lb. extra.

ATROPINE.—Steady at makers' prices. ALKALOID, 21s. per oz.; 4 oz., 20s. 6d., and 25 oz., 20s. per oz. SULPHATE, 16s. 6d. per oz.; 4 oz., 16s., and 25 oz., 15s. 6d. per oz. Bottles, under 5-gm. or ¼-oz., 3d.; stoppered, 5d.; 5-gm. to 25-gm. or ¼-oz., corked, 3½d.; stoppered, 6d.; 25-gm. or 1-oz., corked, 3½d.; stoppered, 7½d.; 50-gm. or 2-oz., corked, 4d.; stoppered, 9d. each; 100-gm. and over, included in price; tubes, per 100, 5-gr., 10s. 6d.; 10-gr., 12s. 3d.; 15-gr., 14s.

BARBITONE.—Prices are tending firmer. Dealers' quotations range between 24s. per lb. for 1-cwt. lots to about 27s. 6d. to 30s. per lb. for smaller quantities.

BENZYL BENZOATE.—Makers advise that they are able to supply, for strictly medical purposes only, at about 4s. to 4s. 6d. per lb., according to quantity.

CAFFEINE.—Small quantities of ALKALOID would be worth about 63s. 6d. to 66s. per lb., but supplies are severely limited. CITRATE is at about 38s. 6d. to 40s. per lb.

CALCIUM LACTATE.—Price continues steady, with business quiet. Makers quote 1s. 9d. per lb. for small quantities.

CALCIUM SODIUM LACTATE.—Makers' prices are unchanged, as follows: 28 lb., 2s. 3d. per lb.; 14 lb., 2s. 5d.; smaller lots, 2s. 8d. per lb.

CITRATES.—Makers' scales of prices are steady:—

POTASSIUM, B.P.	In containers of					
	1 lb.	2 lb.	4 lb.	7 lb.	14 lb.	28 lb.
Under 4 lb. ..	s. d. 3 0	s. d. 2 10½	s. d. —	s. d. —	s. d. —	s. d. —
4 lb. and under 7 lb. ..	2 11	2 9½	2 9½	—	—	—
7 lb. and under 14 lb. ..	2 10	2 8½	2 8½	2 7½	—	—
14 lb. and under 28 lb. ..	2 9	2 7½	2 7½	2 6½	2 6½	—
28 lb. and under 1 cwt. ..	2 8	2 6½	2 6½	2 5½	2 5½	2 5

SODIUM, B.P., one penny lb. below, and IRON AND AMMONIUM (SCALES), B.P., threepence per lb. above corresponding prices for POTASSIUM, B.P. Prices net. All packages charged extra. It is a condition of sale that buyers undertake not to re-sell at prices below the values given. 28-lb. tins charged 2s. each.

COCAINE.—British makers' prices for wholesale bulk quantities are as follows: HYDROCHLORIDE and NITRATE, 25 oz. and over, 29s. 9d.; 16 oz. and less than 25 oz., 30s. 9d.; over 8 oz. and less than 16 oz., 31s. 9d. per oz. ALKALOID, CITRATE, and SALICYLATE, 25 oz. and over, 32s. 6d.; 16 oz. and less than 25 oz., 33s. 6d.; over 8 oz. and less than 16 oz., 32s. 6d. per oz., 16-oz. packages free, smaller packing extra. The scale of prices applicable to distributors of smaller quantities is as follows: HYDROCHLORIDE and NITRATE, 8 oz., 34s. 1d.; 4 oz. and less than 7 oz., 34s. 7d.; 2 oz. and less than 4 oz., 35s. 5d.; 1 oz. and less than 2 oz., 36s. 5d.; ½ oz. and less than 1 oz., 37s. 11d.; ¼ oz. and less than ½ oz., 40s. 11d. per oz. ALKALOID, CITRATE and SALICYLATE, 8 oz., 36s. 10d.; 4 oz. and less than 8 oz., 37s. 4d.; 2 oz. and less than 4 oz., 38s. 2d.; 1 oz. and less than 2 oz., 39s. 2d.; ½ oz. and less than 1 oz., 40s. 8d.; ¼ oz. and less than ½ oz., 43s. 8d. per oz., packages extra. Re-sale: Sales are subject to buyer's undertaking not to re-sell any quantity below scale current at time of re-sale. Export prices vary according to destination.

CREOSOTE (BEECHWOOD).—Values continue firm at about 8s. 6d. to 9s. per lb. for quantities.

EMETINE HYDROCHLORIDE.—Average demand; makers' prices steady at about 100s. to 104s. per oz., according to quantity.

EPHEDRINE HYDROCHLORIDE (B.P.).—Ordinary quantities are quoted at about 7s. to 8s. per oz., with lots of 1,000 oz. at lower figures.

HEXAMINE.—Fair demand at steady prices. Dealers quote as follows:—Free-running crystals, about 2s. 1d. to 2s. 3d. per lb., ex store, according to quantity; powder at cheaper rates.

LACTIC ACID (B.P.).—Steady, with fair inquiry. One-cwt. carboys, 1s. 10d. per lb.; winchesters and bottles, 1s. 11d. to 2s. 1d. per lb.

MAGNESIUM TRISILICATE.—The following are makers' prices:—

Quantity	In containers of					
	1 lb.	2 lb.	4 lb.	7 lb.	14 lb.	28 lb.
1 lb. and under 4 lb. ..	s. d. 3 4	s. d. 3 2½	s. d. —	s. d. —	s. d. —	s. d. —
4 lb. and under 7 lb. ..	3 3	3 1½	3 1½	—	—	—
7 lb. and under 14 lb. ..	3 2	3 0½	3 0½	2 11½	—	—
14 lb. and under 28 lb. ..	3 1	2 11½	2 11½	2 10½	2 10½	—
28 lb. and under 1 cwt. ..	3 0	2 10½	2 10½	2 9½	2 9½	2 9
Not less than 1 cwt. ..	2 8	2 6½	2 6½	2 5½	2 5½	2 5
Not less than 5 cwt. ..	2 6	2 4½	2 4½	2 3½	2 3½	2 3
Not less than 10 cwt. ..	2 4	2 2½	2 2½	2 1½	2 1½	2 1

Contracts may be booked for 1 cwt. and over, with rise-and-fall clause. It is a condition of sale that buyers undertake not to re-sell at prices below scale current at time of re-sale. Packages returnable and extra.

METHYL SULPHONAL.—Remains quiet. Dealers quote 39s. to 41s. per lb., ex store.

PARALDEHYDE.—Quantities, in one-cwt. carboys, continue to be quoted steadily at about 1s. to 1s. 1d. per lb.

PHENACETIN.—Makers' prices for ordinary quantities are steady at about 3s. 9d. to 4s. per lb., without engagement. Dealers' prices remain at about 8s. 6d. per lb.



MERCURIALS.—Controlled prices remain as follows:—

Mercury Compound	Over 7 lb. but less than 28 lb.	28 lb. and over but less than 1 cwt.	1 cwt. and over but less than 2 cwt.	2 cwt. and over but less than 5 cwt.	5 cwt. and over
Bichloride, powder	s. d. 12 0	s. d. 11 8	s. d. 11 7	s. d. 11 6	s. d. 11 4
Bichloride (industrial quality)	12 0	11 8	11 7	11 5	11 3
Bichloride, lump	12 7	12 3	12 2	12 1	11 10
Ammonium chloride, powder	13 10	13 6	13 5	13 4	12 10
Ammonium chloride, lump	13 8	13 4	13 3	13 2	12 8
Chloride (mercurous)	14 2	13 10	13 9	13 8	13 6
Oxide, red crystalline, B.P.	15 11	15 7	15 6	15 5	15 3
Oxide, red levigated, B.P.	15 5	15 1	15 0	14 11	14 11
Oxide, red technical	All quantities—14s. 8d. per lb.				
Oxide, yellow levigated, B.P.	15 4	15 0	14 11	14 10	14 10
Oxide, yellow technical	All quantities—14s. 4d. per lb.				

Packages free for quantities of 28 lb. and over; delivery free on orders of £20 and over.

PHENAZONE.—Fair demand at unchanged prices. Dealers quote at about 17s. 6d. per lb. for bulk quantities, and about 22s. per lb. for smaller lots.

PHENOLPHTHALEIN.—Steady at makers' prices, as follows: Less than 7 lb., 4s. 2d. per lb.; 7 lb., 4s. 1d.; 14 lb., 4s.; 28 lb., 3s. 11d.; one cwt., 3s. 10d.

POTASSIUM PERMANGANATE.—Makers' prices are as follows:—

Minimum delivery of	B.P. Quality		Technical	
	In 1-cwt. drums Per lb.	In 5-cwt. drums Per lb.	In 1-cwt. drums Per cwt.	In 5-cwt. drums Per cwt.
1 cwt. up	s. d. 1 5½	s. d. —	s. d. 161 6	s. d. —
3 cwt. up	1 5	—	157 0	—
5 cwt. up	1 4½	1 4½	154 6	152 0
1 ton up	1 4½	1 4	152 0	149 6
4 tons up	1 4½	1 4	149 6	147 3

Terms: Net, delivered nearest railway station in Great Britain; drums extra and returnable.

QUININE.—The sterling price for sulphate, based on American dollars, is £14 17s. 5d. per 100 oz., f.o.b. Java.

RESORCIN.—Dealers' prices for spot material are at about 8s. 6d. to 9s. per lb.

SALICYLIC ACID (B.P.).—Makers' prices are steady:—

In containers of	1 lb.	2 lb.	4 lb.	7 lb.	14 lb.	28 lb.
Under 4 lb.	s. d. 2 7½	s. d. 2 6	s. d. —	s. d. —	s. d. —	s. d. —
4 lb. and under 7 lb.	2 6½	2 5	2 4½	—	—	—
7 lb. and under 14 lb.	2 5½	2 4	2 3½	2 3½	—	—
14 lb. and under 28 lb.	2 4½	2 3	2 2½	2 2½	2 2	—
28 lb. and under 1 cwt.	2 3½	2 2	2 1½	2 1½	2 1	2 0½
1 cwt. and under 5 cwt.	1 11½	1 10	1 9½	1 9½	1 9	1 8½
5 cwt. and under 1 ton	1 11	1 9½	1 9½	1 8½	1 8½	1 8
1 ton	1 10	1 8½	1 8½	1 7½	1 7½	1 7

\* 8 × 14 lb. and upwards, in one delivery, ½ lb. less.

Prices include parcels or collapsible cartons; other packages charged extra. Can be assorted with sodium salicylate. Prices are quoted subject to buyer's undertaking not to re-sell any quantities at prices or terms below scale current at time of re-sale.

SALOL.—Spot quotations now range between 6s. 3d. and 6s. 9d. per lb., according to quantity.

SANTONIN.—Convention prices are as follows: 15 kilos and over, £35 10s.; not less than 10 kilos, £36 5s.; not less than 5 kilos, £37; less than 5 kilos, £38 per kilo, delivered free in the U.K.; 1-kilo tins free.

SODIUM BARBITONE.—Prices show a tendency to become firmer. One cwt., about 24s. per lb.; smaller quantities, about 27s. 6d. to 30s. per lb.

SODIUM SALICYLATE (B.P.).—Makers' scales of prices are unchanged:—

In containers of	1 lb.	2 lb.	4 lb.	7 lb.	14 lb.	28 lb.
Under 4 lb.	s. d. 3 0	s. d. 2 10½	s. d. —	s. d. —	s. d. —	s. d. —
4 lb. and under 7 lb.	2 11	2 9½	2 9½	—	—	—
7 lb. and under 14 lb.	2 10	2 8½	2 8½	2 7½	—	—
14 lb. and under 28 lb.	2 9	2 7½	2 7½	2 6½	2 6½	—
28 lb. and under 1 cwt.	2 8	2 6½	2 6½	2 5½	2 5½	2 5
1 cwt. and under 5 cwt.	2 3	2 1½	2 1½	2 0½	2 0½	2 0
5 cwt. and under 1 ton	2 2½	2 1	2 0½	2 0½	2 0	1 11½
1 ton	2 2	2 0½	2 0½	1 11½	1 11½	1 11

\* 8 × 14 lb. and upwards, in one delivery, ½ lb. less.

Prices include parcels or collapsible cartons; other packages charged extra. Can be assorted with salicylic acid. Prices are quoted subject to buyer's undertaking not to re-sell any quantities at prices or terms below scale current at time of re-sale.

SULPHANILAMIDE.—Fair business is passing, and values are at about 10s. 6d. to 11s. 6d. per lb., according to quantity.

SULPHONAL.—Except for small-scale business, the market is

quiet. Dealers are quoting about 34s. to 37s. 6d. per lb., according to quantity.

THEOBROMINE.—Imported material continues to be quoted at about 55s. to 60s. per lb., with supplies short. THEOBROMINE SODIUM SALICYLATE.—Value of British-made from imported theobromine would be about 36s. to 40s. per lb.

VANILLIN.—In limited supply at the advanced prices given last week: Ex clove oil or guaiacol, five cwt., 18s. per lb.; one cwt., 18s. 1½d.; 56 lb., 18s. 3d.; less than 56 lb., 18s. 6d., carriage paid in the U.K. Tins in cases are now returnable to makers.

VERMILION.—Controlled prices are as follows: Over 7 lb. but not more than 30 lb., 13s. 1d.; 30 lb. and over but less than 1 cwt., 13s.; 1 cwt. and over but less than 5 cwt., 12s. 11d.; 5 cwt. and over but less than 10 cwt., 12s. 10d.; 10 cwt. and over but less than 20 cwt., 12s. 9d.; 20 cwt. and over, 12s. 8d. Packages free for all quantities; delivery free on orders of £10 and over.

## Crude Drugs

RATHER quiet in most products but with a few items in good demand. Prices are generally firm.

ACONITE ROOT.—Some Indian afloat is quoted at 190s. per cwt.

AGAR.—Spot supplies are limited and held at former figures. Prices are as follows: Kobe No. 1, 18s. per lb.; Kobe No. 2, 17s. 6d.; Yokohama No. 1, 17s. 6d. per lb. Some parcels of Kobe No. 1, reported afloat from New York, are offered at about 17s. per lb., for pharmaceutical purposes only.

ALOE.—Curaçao continues firm and in fair demand, but stocks are depleted. Spot is quoted in the region of 330s. to 350s. per cwt., ex store, according to quantity. The last price from New York was at 310s. per cwt., c.i.f. Cape remains steady on spot at about 57s. 6d. to 60s. per cwt.

ANTIMONY.—Demand rather better, but prices unchanged, English, 99 per cent., £85 per ton, delivered; foreign regulus, £88 to £91 per ton, ex warehouse, duty paid; Chinese, for prompt shipment, £76 to £80, c.i.f.

BALSAMS.—Supplies of *Tolu* are poor, and spot would be worth about 7s. 6d. to 8s. per lb., according to quality; *Canada*, spot, about 7s. 6d. to 7s. 9d. per lb.; *Copaiba*, B.P., about 3s. 6d. per lb.; *Peru*, about 7s. 3d. to 7s. 6d. per lb.

BENZON.—Limited to spot sale. Sumatra is quoted steady on spot at from £5 10s. to £6 15s. per cwt., ex store.

BISMUTH METAL.—Fair business is passing at current rate of one dollar 25 cents per lb.

CAMPHOR.—Quoted unchanged; spot inquiry fair. Japanese, tablets, spot, 6s. per lb., nominal; slabs, about 5s. 3d.; and flowers, about 5s. 4d. per lb. Continental synthetic is quoted unchanged: Powder, 5s. 3d.; tablets, 5s. 6d. per lb., ex store. English refined, steady, as follows: Flowers, one cwt., 6s. 3d.; 28 lb., 6s. 4d.; less than 28 lb., 6s. 5d. per lb. Transparent tablets, ½-oz., One cwt., 6s. 9d.; 28 lb., 6s. 10d.; less than 28 lb., 6s. 11d. per lb.

CARDAMOMS.—Shipment prices continue to be quoted at higher levels than those for spot. Aleppo greens, spot, 3s. 6d. per lb.; shipment, 3s. 10d. per lb., c.i.f. Bombay seed, spot, 4s. 3d. to 4s. 4d. per lb.; shipment, 4s. 6d. per lb., c.i.f.

CASCARA SAGRADA.—A good spot demand continues, and values are maintained at 125s. upwards per cwt., according to holder and age of bark; supplies are limited. Shipment value remains at about 100s. per cwt., c.i.f.

CASCARILLA.—Stocks are on the small side, but values are steady. Dealers' quotations remain at about 1s. 8d. per lb. for silvery quill and about 1s. 6d. per lb. for siftings.

CINCHONA BARK.—Dealers' spot quotation for *Calisaya* remains at about 1s. 11d. per lb., ex store. Business is on a small scale.

CLOVES.—Again dearer. Spot value of Zanzibar shows a further advance to 1s. 3½d. per lb., sellers; shipment, grade 2, March-April, 9½d. per lb., c.i.f., nominal. Madagascar, also dearer at 1s. 3d. per lb., sellers, in bond.

COCOA BUTTER.—American, Hershey, nominal; prime English, no offers.

COCONUT (DESICCATED).—Maximum wholesale price, as fixed by the Ministry of Food, is 49s. per cwt.

COLOCYNTH.—Business is of a routine character. Dealers quote fair white on spot at about 2s. per lb.

DAMIANA LEAVES.—Not much doing on spot, but values steady. Dealers are asking about 1s. per lb., ex store.

DANDELION ROOT.—The spot value of Indian remains at about 140s. to 160s. per cwt.

DERRIS ROOT.—In quiet demand, with spot values steady. Dealers' spot prices are in the region of 1s. to 1s. 2d. per lb., according to test.

EGROT.—Values are fully steady, with business quiet. Spanish-Portuguese continues to be quoted on spot at about 8s. to 8s. 3d. per lb., ex store; shipment, between 6s. 6d. and 6s. 9d. per lb., c.i.f., according to seller.

GAMBOGE.—Spot supplies are rather low, and there appear to be no offers from origin. Good Siam pipe, spot, about £27 per cwt., ex store.



**GINGER.**—Forward quotations are unchanged as follows: West African, 45s. c.i.f.; Jamaican, No. 2, 85s., to arrive, and No. 3, 75s. per cwt., c.i.f.; Cochim, unwashed, 38s. per cwt., c.i.f. Spot, all descriptions, nominal.

**GUM ACACIA.**—Quiet but steady; quotations unchanged. Kordofan cleaned sorts, spot, about 90s. per cwt., ex store; bleached, from 140s. to 170s. per cwt., according to quality; shipment, cleaned, 47s. 6d. per cwt., c.i.f.

**IPECACUANHA.**—Business is limited, but values are steady. Matto Grosso, spot, about 18s. 6d. per lb., nominal, ex store; shipment, about 13s. 6d. per lb., c.i.f. Spot quotations for Minas are now at about 10s. 6d. to 10s. 9d. per lb.; shipment, about 8s. 3d. to 8s. 6d. per lb., c.i.f. EXT. IPECAC. 119., steady at 26s. 6d. per lb., for minimum lots of twelve winchesters.

**LOBELIA HERB.**—Dealers' spot quotations remain at about 1s. 7d. to 1s. 8d. per lb., ex store.

**MENTHOL.**—A fair amount of inquiry is noted, with business reported done in Chinese at 25s. per lb., and a few small sellers at this price; shipment, about 22s. per lb., c.i.f. Japanese on spot is now worth about 27s. 6d. per lb., ex store, duty paid.

**MERCURY.**—Spot metal continues to be quoted at about £49 to £50 per bottle, ex warehouse London. It is reported that British interests have arranged to buy 12,000 flasks of mercury from Spain.

**NUTMEGS.**—Market quiet, with values nominal on spot. Eastern browns, spot, 65s., 1s. 9d. per lb.; 80s., 1s. 8d.; West Indian, spot, 80s., 1s. 4d.; 90s., 1s.; wormy and broken, 11d.

**ORANGE PEEL.**—Not much inquiry is noted, and values are steady. Bitter quarters, if available, would be valued at about 1s. 10d. per lb. on spot; thin-cut, spot, about 3s. 9d. to 4s. per lb., ex store.

**PEPPERS.**—A strong demand has been maintained, and all varieties show further advances. Lampong, spot, in bond, 7½d. per lb., buyers; Tellicherry, spot, 8½d. per lb.; Aleppy, spot, again dearer at 8½d. per lb., value. White Muntok, firm on spot at the increased price of 1s. per lb.; shipment unquoted.

**PIMENTO.**—Quiet. Spot quotation dearer at 1s. 6d. per lb.; shipment, new-crop, March-April, unchanged at 140s. per cwt., c.i.f., nominal.

**PODOPHYLLUM ROOT.**—*Emodi* is quoted on spot at in the region of 60s. per cwt., and American at about 80s. per cwt.

**QUASSIA CHIPS.**—Supplies available are not large, but values are steady. Dealers would require about 30s. per cwt., ex store, for spot material.

**RHUBARB.**—The spot market is firm. Rough-round, in limited supply, is again quoted on spot at about 6s. 3d. per lb.; some afloat parcels are offered at 5s. 6d. per lb., duty paid; shipment, about 4s. 6d. to 4s. 8d. per lb., c.i.f. Shensi, limited supplies are quoted on spot at about 7s. 9d. to 8s. 9d. per lb.

**RUBBER.**—Standard ribbed smoked sheet a fraction dearer on spot at 13½d.; March, 13½d.; April-May, 13½d.; June, 13½d.; July-September, 13½d.; October-December, 13½d.

**SEEDS.**—ANISE.—Bulgarian, spot, paid, duty 135s. CANARY.—No stocks available. CARAWAY.—Dutch, spot, 2s. 6d. per lb., duty paid. CORIANDER.—Morocco, spot, 120s., duty paid, ex store Liverpool; English, 125s., duty free, ex store London. DILL.—Indian, spot, 75s., duty free. FENNEL.—Indian, spot, 65s., duty free; Iran, 57s. 6d., duty paid. FENUGREEK.—Morocco, spot, duty paid, 40s., ex store London. MUSTARD.—English, spot, 80s. to 85s., according to quality. CUMIN.—Malta, spot, 140s., duty free; Morocco, 142s. 6d., duty paid.

**SENNA.**—Prices are steady and unchanged. Tinnevely, spot supplies small. No. 1 leaves, 10d. per lb.; No. 2 leaves, 6½d.; No. 3 leaves, 5d. per lb. Hand-picked Tinnevely pods, if available, 1s. to 1s. 3d. per lb.; manufacturing pods, 6d. to 7d. per lb. Alexandrian hand-picked pods, a few small lots at 5s. 6d. to 7s. 6d. per lb.

The area in Madras Province sown with Senna in dry lands up to December 25, 1940, is estimated at 1,600 acres (500 acres in Ramnad and 1,100 acres in Tinnevely), against 1,100 (600 in Ramnad and 500 in Tinnevely) for the corresponding period of the previous year. The sowing season on dry lands is not yet over and sowings on wet lands have not yet commenced. The condition of the early-sown crop on dry lands is reported to be satisfactory.

**SENEGA.**—Spot values are steady at about 5s. 1½d. to 5s. 3d. per lb.; shipment, about 4s. 9d. per lb., c.i.f.

**SERPENTARY ROOT.**—Steady, small business. Dealers are quoting about 4s. per lb. for spot supplies.

**SHELLAC.**—Quoted dearer on spot at 92s. 6d. per cwt. for the usual standard TN orange; shipment for arrival, 76s. c.i.f. Pure button, spot, 115s., and fine orange, 110s. to 170s. per cwt.

**STRAMONIUM LEAVES.**—Spot quotations for Indian leaves are in the region of 110s. per cwt.

**STROPHANTHUS SEED.**—A parcel of 100 per cent. Kombé, now landed, is offered at about 10s. per lb.

**TAMARINDS.**—A limited supply of Barbados is available at 55s. per cwt.

**TRAGACANTH.**—Current quotations for medium grades are as follows: No. 1, white, £115, nominal; No. 2, white, £100, nominal; No. 3, white, £90; pale leaf, £65 to £70; amber leaf, £37; red leaf, from £17; woody and hoggy, from £10 to 10s. per cwt., ex store.

**TURMERIC.**—Firm; Madras and Rajapore finger, spot, quoted at 52s. 6d.

**VALERIAN ROOT.**—Some Indian root is quoted on spot at about 130s. to 140s. per cwt.

**WAXES.**—BEES'.—Markets are active and prices are steady. Spot, 200s.; in bond, 190s.; shipment, Dar-es-Salaam, 182s. 6d. per cwt., c.i.f. Japanese, first three brands, spot, duty paid, 145s.; in bond, 130s.; shipment, nominal. CARNAUBA.—Fatty grey, 450s.; chalky grey, 435s.; Primeira, 500s.

### Essential and Expressed Oils

BUSINESS continues in a few products on a moderate scale, but trade generally is quiet, with values mainly steady.

**ALMOND.**—English makers of expressed are quoting as follows: One-cwt. lots, from 5s. per lb., with smaller quantities up to 5s. 6d. per lb., ex store. The value of foreign bitter, if available, would be in the region of 20s. to 25s. per lb., on spot; English, from 35s.

**ANISE (STAR).**—Continues firm on spot. Tins in cases, about 7s. 3d. per lb.; drums, about 6s. 9d. to 7s. per lb., ex store. Shipment, tins in cases, about 5s.; drums, about 4s. 5d. per lb., c.i.f.

**BAY.**—A few small spot orders. Dealers' spot prices remain steady at approximately 6s. 6d. per lb., ex store.

**BOIS DE ROSE.**—Dealers' spot prices are maintained at approximately 14s. per lb.; shipment, steady at about 9s. 3d. per lb., c.i.f., in drums.

**CAJUPUT.**—Quiet spot demand. Dealers quote at about 5s. 6d. per lb., according to quantity.

**CANANGA.**—Little spot activity; price steady at about 19s. per lb.

**CASSIA.**—In good demand at firm prices. Spot, 9s. upwards per lb.; shipment, if obtainable, in the region of 7s. per lb., c.i.f.

**CEDARWOOD.**—Spot market quiet, with values unchanged. Spot, American, 2s. upwards per lb., according to quantity.

**CINNAMON LEAF.**—Small supplies are quoted by dealers at about 4s. 6d. to 5s. 6d. per lb.

**CLOVE.**—In good demand on spot. Imported, spot, in drums, about 6s. 6d. to 7s. per lb., if available. English, quoted unchanged at about 8s. 3d. to 8s. 9d. per lb., according to quantity.

**EUCALYPTUS.**—Spot prices are about steady; shipment, nominal. Spot, from 4s. to 4s. 6d. per lb. for 70 to 75 per cent. oil, according to holder, and from 4s. 6d. to 4s. 9d. for 80 to 85 per cent.

**GERANIUM.**—Quiet, with values about unchanged. Spot, Bourbon and Algerian, 60s. upwards per lb.

**GRAPEFRUIT.**—Genuine Californian is in good demand at about 14s. 6d. to 15s. per lb. for spot supplies.

**GROUNDNUT.**—No change in the controlled price for large bulk quantities of refined deodorised at £40 per ton, naked ex works.

**LAVENDER.**—Quotations for good-quality 38-40 per cent. continue at about 60s. per lb.

**LEMONGRASS.**—Firm. Spot quotations are in the region of 5s. to 5s. 6d. per lb.; shipment, about 4s. 3d. per lb., c.i.f.

**LINSEED.**—Controlled price for large bulk quantities of crude, naked ex works is unchanged at £41 10s. per ton. Distributors' prices for ordinary quantities would be higher.

**NEROLI.**—Quiet; pure natural, spot, about 80s. per oz.

**NUTMEG.**—Supplies are limited, and business is small. Spot, approximately 18s. to 20s. per lb.

**OLIVE.**—The Ministry of Food controlled price to importers for large bulk quantities in 50-gall. drums is unchanged. Distributors' prices for a few gallons, in gallon tins, carriage paid, range from 12s. 6d. to 13s. 6d. per gall., as to quantity.

**ORANGE.**—Spot value of French Guinea continues at approximately 12s. 6d. per lb., with other good brands available at the same price. Californian is quoted in sterling at 5s. per lb., in small drums, ex store, duty paid, limited supplies only being available. Shipment can be effected by transit overland to New York at five cents per lb. extra.

**PALMAROSA.**—Business has been on a small scale, with spot now in the region of 15s. 6d. per lb., nominal; shipment, new-crop, about 12s. 6d. per lb., c.i.f.

**PEPPERMINT.**—Good spot demand continues for Chinese, with business reported done at 15s. per lb., and further small sellers at this figure; some near-at-hand afloat is quoted at 13s. per lb., c.i.f., seller's licence; shipment, about 7s. 9d. to 8s. per lb., c.i.f., buyer's licence. American natural, spot, about 20s. per lb., ex store; shipment, firm. Drums, about 18s., and tins in cases, about 18s. 6d. per lb., c.i.f.

**PINE.**—A few inquiries for small quantities. Siberian, spot, about 10s. to 12s. per lb.; Punilio, if available, about 25s. per lb.

**ROSE.**—Spot value of Bulgarian unchanged at about 110s. per oz.

**ROSEMARY.**—Business is on a small scale. Dealers quote spot supplies at approximately 6s. 6d. to 7s. per lb.

**SASSAFRAS.**—Moderate inquiry; values steady. Spot, about 10s. to 12s. per lb. for genuine natural.

**SPIKE.**—Spot values are steady at in the region of 13s. per lb.

**THYME.**—Prices steady, demand quiet. Spot, between 10s. and 12s. per lb., according to phenolic content.

**VETIVERT.**—Steady, business quiet. Spot, Bourbon, about 50s. per lb.; Java, about 40s. per lb., ex store.



## CORRESPONDENCE

Correspondents may adopt an assumed name, but must in all cases furnish their real name and address to the Editor

### A Canadian View

SIR,—In my three years of Canadian life I've not forgotten my "Old Country" experiences both "on the road" and behind the pharmacy counter. Here pharmacy makes no appeal to me, a comparison between here and back home scarcely exists. As you know, here the drug store is not a pharmacy: only a little more general than the general store on account of having the addition of a dispensing department. At the same time I do not forget the tendency in that direction at home.

Yours truly,

R. J. BARRE, Ph.C.

Avonmore, Ontario.

### A Definition Wanted

SIR,—The report of the inquiry by a committee of the American Pharmaceutical Association (*C. & D.*, February 22, p. 113) is interesting because it enables us to compare the views held in America on the future requirements of pharmacy with our own. The committee recommended restricting distribution to pharmacists, doctors, dentists, and other specified classes, but if by distribution is meant the actual supply to the public, why include the last three classes? The training of pharmacists alone is devoted to the knowledge and handling of drugs, so far as their dispensing and sale is concerned, and whilst the others may learn how to prescribe, they have little or no experience of manipulation. The committee regretted there was no definition of the words "drug" and "medicine." Its own adopted definition is undoubtedly exhaustive, but is too prolix. Something simpler is required. The reason for any difficulty in formulating a short definition appears to be that many substances have uses other than medicinal. When sold as drugs or used for dispensing medicine their distribution would be restricted to pharmacists, but, on the other hand, when they are required for household or trade purposes such a restriction could not apply. On one thing we can all agree: it is not in the public interest that a state of affairs should be perpetuated in which the supply of medicine is in the hands of untrained persons.—Yours faithfully,

DISTRIBUTOR (22/2).

### Cosmetic Formulas

SIR,—With reference to Mr. Herbert Skinner's letter on this topic appearing in the *C. & D.*, March 1, p. 135, may I ask whether a fruiterer who sells strawberries or a fishmonger who sells oysters to persons allergic to these articles of diet is responsible for ill effects which may occur, and, if not, is the chemist who supplies a cosmetic compounded of materials perfectly harmless to the vast majority of folk responsible for any troubles thereby occasioned by allergy? Ninety-nine per cent. of the materials used in the compounding of cosmetics fall into this category, and, if any risks attach to their application to the skin, similar risks attach to the whole gamut of pharmaceutical preparations used for the alleviation of skin diseases and defects. If, however, Mr. Skinner's contention is that very many published cosmetic formulas are of little value save as providing bases for experiment, I cordially agree. The prospective small-scale manufacturer of cosmetics is well advised if he seeks expert advice. I am surprised, however, that sodium lauryl sulphate should be singled out for mention, since it is no more irritating than soap, and, indeed, less irritating than some soaps, and is widely employed in the manufacture of soapless shampoo powders. The question of its admixture with other ingredients is largely irrelevant to that of possible irritation, since the concentration of the actual solution applied to the scalp will depend, not upon the proportion of sodium lauryl sulphate in the powder, but on the quantity of sodium lauryl sulphate in the packet. However, it should be noted that the addition of certain substances does appear to increase the irritant effect of sodium lauryl sulphate, which, however, is so small as to be practically negligible. I am personally in touch with several firms whose shampoo powders are based on sodium lauryl sulphate, and admixtures of the type mentioned above, and have never heard of a single case of complaint. However, Mr. Skinner's reference to sodium lauryl sulphate does serve to illustrate one serious defect of published cosmetic formulas. Sodium lauryl sulphate is not marketed, to my knowledge, in a chemically pure state. It is obtainable in the form of

mixtures containing different proportions of the substance according to grade. To which grade do the formulas refer which Mr. Skinner criticises?—Yours faithfully,

Pangbourne.

H. STANLEY REDGROVE, B.Sc., F.I.C.

### Employee Representation on the Pharmaceutical Council

SIR,—Your correspondent, Mr. A. Berry (*C. & D.*, March 1, p. 135), expresses his pleasure at the attitude taken by Mr. B. A. Williams to the proposed Pharmacy Act Amendments. He speaks of "acknowledging our debt to them (The Association of Pharmaceutical Employees) when the Council elections come round again." The pharmacist who is jealous of his craft would do well to follow Mr. Williams's example. Pharmacy will benefit by adequate employee representation on the Council. A government without an opposition is essentially an anæmic affair, and the nightingales have been singing in Bloomsbury Square without a proper opposition for a long time now. Let us elect some more representatives of the employees.

Yours faithfully,

DEMOS (4/3).

## MISCELLANEOUS INQUIRIES

We do not undertake to analyse and report upon proprietary articles nor to publish supposed formulas for them

**Triethanolamine Substitutes.**—*F. Y. T.* (4/2).—It is difficult to suggest the most satisfactory alternative to triethanolamine following the restrictions on its use for cosmetic purposes, without details of the particular products you wish to prepare. The following suggestions, however, will probably be of assistance to you in selecting an alternative emulsifying agent for your products:—*Cold creams*: absorption bases fatty-alcohol emulsifiers, emulsifying waxes; *vanishing creams*: glyceryl monostearate, diglycol stearate; *hair creams*: beeswax and borax, fatty-alcohol emulsifiers; *liquid creams*: soaps, mucilages, diglycol stearate; *skin foods*: lanolin absorption bases.

**Digestive Liver- tonic.**—*W. C. L.* (26/2).—The following is the formula for digestive liver- tonic, No. 71 of the *C. & D.* Diary, 1910:—

Acid. phosphoric. dil.	..	..	..	13½ dr.
Acid. nitro-mur. dil.	..	..	..	13½ dr.
Inf. gentian. co. conc.	..	..	..	27 dr.
Liq. aurantii	..	..	..	q.s. ad color.
Glycerin.	..	..	..	27 dr.
Aquam ad	..	..	..	80 oz.

Dose.—Half an ounce. We suggest that you use a solution of orange G., B.P.C., for the liquor aurantii in the formula to give the mixture a suitable yellow-orange colour.

**Clubroot Prevention.**—*B. & S.* (25/2).—The application of a 1 in 2,000 solution of corrosive sublimate to the soil of the seed bed is recommended, prior to sowing the seed, followed by a second application when the seedlings are 2 in. high, and finally in the holes at planting time. This method has proved successful in treating cauliflowers, cabbage, brussels sprouts, broccoli, and also for wallflowers, stocks, candytuft, etc. Root maggots and slugs are also effectively controlled by this method.

**Mouth Wash.**—*A. S. B.* (3/3).—A mouth wash without glycerin or sugar may be made to the following formula:—

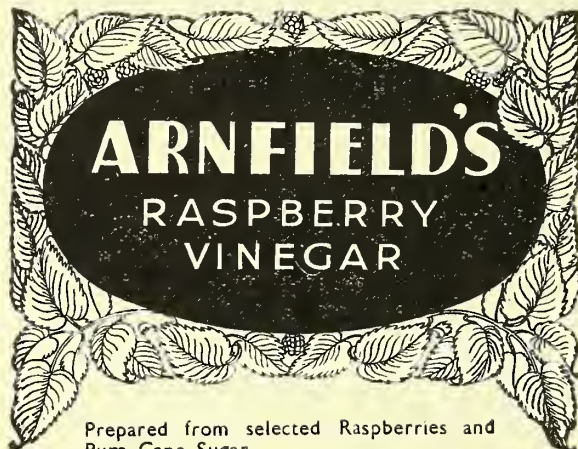
Acid. boric.	..	..	..	1½ dr.
Menthol	..	..	..	4 gr.
Thymol	..	..	..	4 gr.
Methyl. salicyl.	..	..	..	℥ 5
Eucalyptol	..	..	..	℥ 8
Ol. thymi	..	..	..	℥ 1
S.V.R.	..	..	..	2½ fl. oz.
Aq. dest.	..	..	..	ad 8 fl. oz.

**Synthetic Cream.**—*H. C. L.* (25/2).—The following general methods of preparing this will probably be of assistance to you. 1. Take equal parts of marshmallow, fondant (confectionery grades) and margarine. Mix in a high-speed beater and thin down with water if necessary. 2. Soak flaked or powdered egg-white in about three times its weight of water for twelve hours. Mix with some form of sweetener (sugar, glucose, fondant) and margarine and a little powdered tragacanth. Beat up well. The proportions of the ingredients in either of the above recipes will depend on the constituency of the cream required, but the recipes will form the basis for you to experiment with.



There is no shortage of  
Howards' Aspirin Tablets  
at present; in fact,  
Pharmacists can still get  
the bonus on display  
terms from their Whole-  
sale House, but—it might  
be a wise precaution to  
put them on order





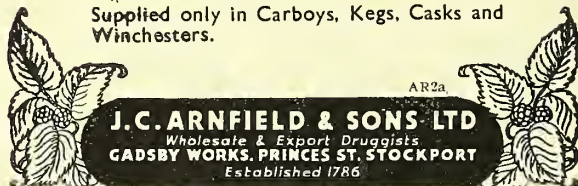
Prepared from selected Raspberries and Pure Cane Sugar.

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Samples and prices will be sent on receipt of applications.

Supplied only in Carboys, Kegs, Casks and Winchester.



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Wholesale & Export Druggists  
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Established 1786

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**NIPA 49** ... the powerful and harmless antioxidant

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Bees Wax, Candelilla  
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THE POTENT BRAIN & NERVE TONIC  
FOR MEN

1/3 size - 7/6 doz.  
2/3 - 13/6

THE  
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ASH VALE, SURREY.

FROM ALL SUNDRIES  
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*A profit  
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SWEETENED  
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*We invite your enquiries*

**THORNTON & ROSS LTD.**

*Manufacturing Chemists*

**LINTHWAITE HUDDERSFIELD**





# RAZOR BLADE FAMINE!

*Make up your Profits on  
Dry Shavers*

**HANLEY**  
(*Dry Shavers*)  
PATENTED  
(BRITISH MADE)



RETAIL

**50/-**

Free of Purchase Tax

**R**EMEMBER, no American shavers can now be imported. Only with the British Made Hanley A.C. Dry Shaver can you make up profits threatened by the shortage of razor blades.

The Hanley A.C. is for alternating current only and is available for voltages 200-220 and 230-250. Its two-way shearing head of stainless steel is self-cleaning and self-sharpening and simplest of all to manipulate. Supplied in zipp-fastening travelling purse, complete with flex and adaptor. Guaranteed for One Year. immediate delivery. Liberal discounts. Being British made there will be no difficulty about spare parts should they be needed at a later date.

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## THE PURCHASE TAX AND KOLYNOS PREPARATIONS.

By virtue of an order dated Feb. 8th, 1941, issued by the Commissioners of Customs and Excise (vide C. & D. Feb. 15th, 1941) approved medicinal mouth washes are transferred to Class 19. Liquid Kolynos, which falls in this category, is consequently now liable to Purchase Tax at 16 $\frac{2}{3}$ % instead of 33 $\frac{1}{3}$ %. Retailers are asked to amend details relating to Liquid Kolynos on the current Kolynos price list to read—

Sizes	Incl. Tax	per doz.	Tax per doz.	Total per doz.
1/9 (Flask)	2/-	15/9	2/7 $\frac{1}{2}$	18/4 $\frac{1}{2}$
6d. (Bottle)	7d.	4/6	9d.	5/3

All other Kolynos products, with the exception of Kolynos Denture Fixative, fall in classes 17 and 18—(33 $\frac{1}{3}$ %). Kolynos Denture Fixative is exempt from Purchase Tax.

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despite the many restrictions  
on Home Trade we are still  
offering our best available  
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**DRUGGISTS' SUNDRIES  
RUBBER surgical APPLIANCES  
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WRITE FOR NEW PRICES  
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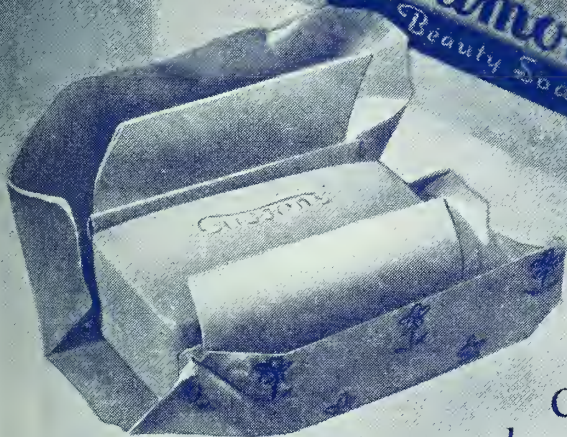
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## CREAMOLIVE BEAUTY SOAP



**4<sup>D</sup> Retail**  
(INCLUSIVE OF PURCHASE TAX)

Cussons Beauty Soap in its charming floral wrapper. Specially moulded to fit snugly into the hand. Exceptional value, it still shows you a full margin of profit.

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*Famous Denture Fixative Cream*

Many users of Dentesive are under the impression that it is difficult to obtain because of shortage of supplies. Actually there is no difficulty at all because—

- 1** Dentesive is manufactured in England and therefore does not have to be imported from abroad.
- 2** Dentesive is NOT subject to the Limitation of Supplies Order.
- 3** Ample stocks are carried by the distributors, and all orders are normally executed on day of receipt.

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**WE CAN SUPPLY ALL  
THE DENTESIVE YOU CAN SELL**

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DENTAL PLATE FIXATIVE**

**PROFIT ON  
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**PROFIT ON  
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EVERYTHING FOR  
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Although like many other Manufacturers and Wholesalers we are experiencing difficulty in keeping you well stocked with your various requirements, we are doing our utmost to fulfil your orders. Therefore, we trust that if we cannot supply your full requirements, you will fully appreciate that this is through no fault of ours.

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SURGICAL DRESSINGS - PACKED TABLETS - PATENT MEDICINES

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Fresh supplies of Continental Mineral Waters are daily becoming more difficult to obtain, but there is a British Mineral Water which fulfils the requirements of those who use such waters as Vichy, Contrexeville, Perrier, Apollinaris, Evian, etc. It is **SULIS**, the natural Mineral Water of Bath, which for centuries has been of a quality comparable to the above brands. Cater, Stoffell & Fortt, Ltd., of Bath, bottle the water straight from the King's Spring and bring the benefits of this famous Sparkling Spa Water to the British Public.



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MINERAL WATER

AGENTS REQUIRED

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THE SPRINGS, BATH

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$6\frac{3}{4}d.$ ,  $1/1\frac{1}{2}$ ,  $2/9\frac{1}{2}$

Rozalex is now in Class 19 and is chargeable at 16 $\frac{3}{4}$ % tax as compared with the previous 33 $\frac{1}{3}$ %. The trade discount remains as always at 33 $\frac{1}{3}$ %.

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**CHAIN OF  
PRODUCTS**  
*with a*  
**CHAIN OF  
PROFITS**



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Prudence and self-interest suggest that in these days, when unavoidable delays, in transit may occur, you should carry good stocks of Warner products.

Their names are household words to the medical profession and continual advertising ensures that they are always fresh in the mind of every practitioner.

The frequency with which Warner preparations are prescribed and recommended by the medical profession speaks volumes for the esteem in

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'Dawn' Ravelproof Face Cloths are made in a range of qualities at various prices. All produced in assorted colours, attractively packed in 'Cellophane' and ready to hand over. A face cloth that is different and never gets silky. Ask for the new 14" DAWN Sponge Cloth. Obtainable from your usual Wholesaler.

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**9/4 per doz. including tax. Sells at 13/6 per doz.**

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**Special!** for **OPENING ORDER Only!**

3 Bottles to Retail @ **1/1½**, including Tax

3 Bottles „ „ @ **2/-** „ „

SENT POSTAGE FREE FOR **6/-**. Cash with Order or C.O.D.

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**TOILET LABELS.** Whilst the supply of Proprietary Toilet Preparations is now limited, public demand is as great as ever. Now therefore is the time for the progressive Chemist to pack his own lines. The labels we are now offering for the purpose are new, attractive, reasonably priced, and will give distinctive finish to your products.

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#### **Compressed Air FILLING MACHINE**

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We manufacture various types of smaller filling machines, and invite correspondence on your filling problems.



*"It pays for itself almost at once."* It is used by all the leading manufacturing chemists, perfumers, etc., etc., at Home and Abroad. Is a really sound engineering job—not a toy—will give many years of trouble-free service, and fills almost any type of liquid into sprinkler neck or ordinary containers with maximum speed. Made in strong Stainless Steel in sizes of 2-gallon capacity upwards.

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The already widely popular JACKSON'S FEBRIFUGE is being extensively advertised. You will find that JACKSON'S FEBRIFUGE will bring you quick sales and good profits. You can safely



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Retail prices 1/3, 3/- & 5/- per bottle  
Plus Purchase Tax

Also other famous specialities: DRAWING OINTMENT, CAMODENE SOAP & OINTMENT, PINE DISINFECTANT

**George Jackson & Son Ltd., Harpurhey, Manchester**



# TO MAKE UP THE LOSS OF NATURAL VITAMIN FOODS . . . .

recommend this Tonic Malt Food with  
guaranteed full complement of vitamins  
A, B, C and D.

"Millamalt" is the complete vitamin food in a most palatable and attractive form. In these days, when natural vitamin foods are not so easily obtained, "Millamalt" ensures a full complement of vitamins A, B, C and D, so necessary for health and steady growth.

It is a super-quality malt product attractively packed and keenly priced. Excellent show material and selling aids are available. Write for full details and prices.

Special quotations for Hospitals and Institutions.

*Made from the best British Barley  
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# MILLAMALT

THE TONIC MALT FOOD



# No Shortage!

WE are receiving mail orders daily from YOUR customers for Pineate Honey Cough-Syrup! WE DON'T WANT THEM! We want YOU to take advantage of the large profits available on this most popular cough remedy for children and grown-ups. Don't disappoint your customers—see that you have good stocks NOW. Remember, present transport difficulties cause delays, so order well in advance.

## SPRING COUGHS ARE HERE!

Link up with our heavy advertising in the National and Magazine Press by displaying Pineate Honey Cough-Syrup in your window and on your counter. We have a good selection of attractive show material. Ask our traveller for specimens or send direct to us.

We give below our best terms on Pineate Honey Cough-Syrup.

### PROFIT 51·18%

(6 $\frac{1}{3}$ d. on every bottle you sell)

Carriage paid on orders of £2 nett and over, plus the following co-operation allowances:

5% on orders of £2; 7 $\frac{1}{2}$ % on orders of £5; 10% on orders of £10.

Retail Selling Price 1/9 each (inc. Purchase Tax)

Price to Retailers .. .. 13/9 per dozen

Purchase Tax .. .. 2/3 $\frac{1}{2}$  „

Profit to Retailer .. .. 4/11 $\frac{1}{2}$  „

# 'Pineate'

## HONEY COUGH-SYRUP

PLENTY  
OF  
STOCKS  
AVAILABLE



# INTERNATIONAL CHEMICAL CO. LTD.

BRAYDON ROAD, LONDON, N. 16.





*"a bird in the hand  
is worth two in the  
bush"*

FROM "DON QUIXOTE," MIGUEL DE CERVANTES, 1547-1616

**PLACE YOUR MAXIMUM  
ORDER NOW**

Remember that "SevenSeaS" is a rich protective food of national importance and is being heavily advertised.

"SevenSeaS" will keep almost indefinitely in any cool, dark cupboard, and, provided it is so stored, will not deteriorate or lose its vitamin values.

ISSUED BY BRITISH COD LIVER OIL PRODUCERS  
(HULL LTD. ST. ANDREW'S DOCK, HULL)

## HUMAN METABOLISM UNDER PRESENT CONDITIONS

*Doctors Prescribing Brand's Essence*

### SALES RISING

THERE has been an increase, lately, in the number of people complaining of general weariness, depression, loss of appetite, and lack of energy.

These symptoms, familiar enough even in peace time, are likely to follow after any illness, shock or exhaustion. They are the symptoms of *depressed metabolism*.

Several chemists have reported that doctors are prescribing Brand's Essence in cases of this kind. The sales of Brand's Essence have certainly risen very appreciably since the war. The makers of Brand's felt that these circumstances called for an independent research into the precise value of Brand's for this war-aggravated condition.

#### *Tests with Living Subjects*

Accordingly, a famous clinical research institution was asked to make impartial tests. Normal healthy subjects were selected and their basal metabolism was established. Then various accepted preparations for raising the metabolic rate were administered.

The scientists report that one preparation repeatedly achieved the best results. It was Brand's Essence. The graphs showed that, on taking half a bottle of either the chicken or beef essence, the subjects' rate of metabolism rose immediately and was sustained over a longer period than when other accepted meat preparations, home-made broths, etc., were taken.

#### *Sales Stimulus*

The results of these tests form the basis for a new advertising campaign for Brand's Essence, addressed to the consumer. Authoritative advertisements, presented as straight "news" in the papers and appealing to the educated, moneyed classes of the public, are appearing week by week in *The Times*, the *Daily Telegraph*, the *Observer*, the *Sunday Times*, and *Punch*.

This campaign will appeal strongly to all those who recognise lowered metabolism symptoms in themselves. You will see a tremendous effect in sales.

It will pay you to give Brand's Essence a good display on your counters and in your windows. *It is still at pre-war prices.* Protected by the P.A.T.A.



**Dr. J. Collis Browne's Chlorodyne**  
and  
**The Pharmacy and Poisons Act, 1933**

**Dr. J. Collis Browne's**  
**CHLORODYNE**

**SALE RESTRICTED TO REGISTERED CHEMISTS**

**PURCHASER'S SIGNATURE NOT REQUIRED**

**Sole Proprietors:**  
**J. T. DAVENPORT LTD.**



**Union St.,**  
**London, S.E.1**

**"Adaptocaps"**

**SELF-SEALING CAPSULES**

**FOR ALL  
BOTTLE  
CAPPING**

**LONDON  
MADE**



**THE LONDON  
CAPSULE CO.**

**EMPIRE WORKS • MITCHAM ROAD • CROYDON**

Telephone: THORNTON HEATH 1234/5

THE  
CAPSULE REMOVER  
ENSURED EASY AND  
RAPID REMOVAL OF  
THE CAPSULE. IT  
ALSO ADDS A SEAL  
OF QUALITY

*It never  
stays on  
your shelves  
for long*



**FOR  
HEADACHE  
NEURALGIA  
COLDS, CHILLS  
RHEUMATISM**

**Cephos**  
See-foss REGD  
Pronounced THE PHYSICIANS' REMEDY

**KEEPS TRADE MOVING**

Its reputation as a safe and effective remedy for the more prevalent ailments is widely known. Cephos enjoys a steady demand throughout the year and good profits are assured those retailers who display it.

**CEPHOS LTD., BLACKBURN**



# Do-Do

*The Asthma Tablet which Inspires Confidence!*

**BACKED by SUSTAINED  
NATIONAL ADVERTISING**



**INTERNATIONAL  
LABORATORIES LTD**

CHARLBURY, Oxon

Telephone: Charlbury 29



**In South Africa  
and Rhodesia**

The Leading Chemists are

**LENNONS**

They have been established in all centres  
of any importance for many years and  
offer modern facilities for manufact-  
uring as well as for Wholesale and  
Retail Distribution throughout  
the territory.

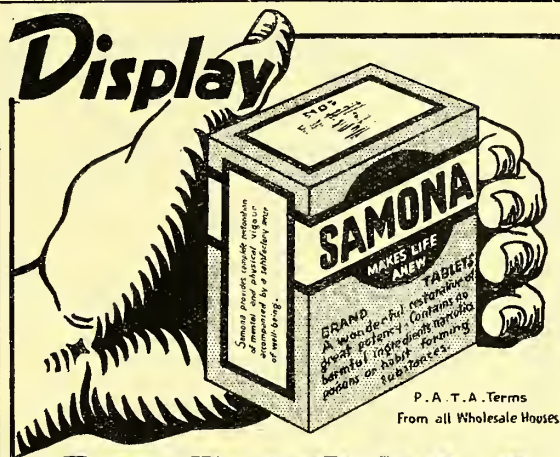
★ If you are seeking reputable representatives or  
desire information about the market write to :

**LENNON LIMITED**

**12-14 LAFONE STREET**

**LONDON, S.E.1**

**TELEPHONE · HOP. 0181**



P. A. T. A. Terms  
From all Wholesale Houses

## SAMONA

THE WONDERFUL MEDICAL RESTORATIVE  
which brings immediate benefit in all cases of

**NERVE STRAIN**

**DEPRESSION**

**TIRED and LISTLESS APPEARANCE**

**MENTAL AND PHYSICAL**

**EXHAUSTION**

Prices 3s. and 5s. (more than double quantity)

Exclusive of purchase tax

**SAMONA, LTD., 16 CHARTERHOUSE ST., LONDON, E.C.1**





Santalum-Album

Sole Agents for U.S.A.:  
Messrs. W. J. Bush & Co., Inc., 11 East  
38th Street, New York.

Sole Agents for Canada:  
Messrs. W. J. Bush & Co. (Canada), Ltd.,  
432 St. Helen Street, Montreal

Sole Agents for South & Central America:  
Messrs. W. J. Bush & Co., Ltd. (London)

# 90% Guaranteed SANTALOL CONTENT

It is this quality of Mysore sandalwood oil which makes it invaluable as a base, modifier and fixative for all perfumes. The sandalwood tree grows almost exclusively in the state of Mysore, and the oil is produced by the methods of modern science under Government supervision. The Santalol content of 90% is a guaranteed minimum.

## Mysore

## SANDALWOOD OIL

### THE TRADE COMMISSIONER FOR MYSORE IN LONDON

Grand Buildings, Trafalgar Square, London, W.C.2

Telephone: WHitehall 83

**SUMNER'S**  
*for*  
**DRUGS, GALENICALS**  
**SURGICAL**  
**INSTRUMENTS**  
**PROPRIETARY**  
**REMEDIES and**  
**SUNDRIES**  
(by MAW of LONDON)

## Vitasac

*The*

### PERFECT BABY FOOD

**New Pack • New Price • New Terms**

- This popular preparation, regularly advertised in selected national magazines, is now packed in hygienic glass containers.



- The new Retail price is 3/3 per jar—this small increase being necessitated by heavy increased costs. It is **not** subject to Purchase Tax.

- The new terms enable the retailer to obtain a return of nearly 35% if advantage is taken of the quantity discount.

**TRADE PRICE: 31/6 per doz.**  
**carriage forward.**

*Carriage Paid and 10% discount  
on 4 dozen and upwards.*

# R. SUMNER & CO. LTD.

*Manufacturing Chemists*

**HANOVER STREET, LIVERPOOL, 1. Telephone: Royal 6644**





# The CHEMIST AND DRUGGIST SUPPLEMENT

This Supplement is inserted in every copy of The Chemist & Druggist

MARCH 15  
1941

28 ESSEX STREET, LONDON, W.C.2

## IMPORTANT TO SUPPLEMENT ADVERTISERS

Instructions for supplement advertising are now accepted in London and at Bath. London press times have been advanced to first post WEDNESDAY morning of week of issue but instructions will still be accepted up to first post THURSDAY morning if sent to Bath.

### THIS IS THE TARIFF

**AGENCIES, GOODS FOR SALE, PARTNERSHIPS, PATENTS, PREMISES TO LET, FOR SALE or WANTED**

7/6 for 36 words or less,  
2d. for every additional word.

**LEGAL NOTICES, SALE BY AUCTION, TENDERS—AND ALL SPECIALLY SPACED ANNOUNCEMENTS**

1/9 per nonpareil line.  
(12 lines = 1 inch, single column.)

**BUSINESSES for DISPOSAL**

**BUSINESSES WANTED SITUATIONS OPEN**

7/6 for 40 words or less,  
2d. for every additional word.

**MISCELLANEOUS SECTION**

(for Wholesalers, etc.),  
for odd and second-hand lots.

12/6 for 60 words or less, 1/- for every additional 10 words or less.

**SITUATIONS WANTED** { 2/6 for 18 words or less, 1d. for every additional word.

**BOX OFFICE NUMBER** 1/- EXTRA

**EXCHANGE COLUMN** (2d. per word for Retailers, etc.) minimum 3/-

Advertisements received after these times will not be inserted until the following week. All advertisements should be prepaid and to avoid disappointment send your instructions as early in the week as possible to

THE CHEMIST AND DRUGGIST, THE PITMAN PRESS, BATH

or to London Office at 28 Essex Street, Strand, London, W.C.2.

## MISCELLANEOUS

### BABY KNICKERS

Waterproof. Sizes: small, medium, large  
Best untearable ... 10/6 per doz. 114/- per gross  
Matt superfine ... 13/- per doz. 144/- per gross  
Polished oiled-silk ... 27/6 per doz. 312/- per gross

### BABY COT SHEETS

Jaconet: size 22 x 27. 20/9 per doz. 237/- per gross.  
" size 36 x 30. 32/- per doz. 348/- per gross.  
Rubber: fitted with brass eyelets. Size 27 x 18. 28/- per doz.  
312/- per gross.

### WHITE NURSING APRONS

Jaconet, price 27/- per doz. 306/- per gross.  
Rubber, price 38/6 per doz. 450/- per gross.

All above goods are waterproof and purchase tax is included in the price.

Immediate delivery. Terms: Net cash with order.

Special prices quoted to the wholesale trade.

Representatives wanted on commission all districts not already covered

L. GOLDSTEIN - (Dept. C.D.) Rear 47 Dean Street, BLACKPOOL S.S.

## ACCOMMODATION WANTED IN HOME COUNTIES

for storing and packing clean products in cases for export. Firms having to offer whole or part of their premises, which must be clean and dry, are invited to give details to Box 62, Greenly's Ltd., 5 Chancery Lane, W.C.2.

## OPTICAL TUITION

FOR THE

S.M.C., B.O.A., and N.A.O. DIPLOMA Examinations  
Particulars:—

C.A. SCURR, F.S.M.O., F.B.O.A., F.N.A.O., F.I.O., F.C.O., M.P.S.

50 HIGH STREET, BARNET, LONDON, N.

A VALUABLE ADDITION TO  
THE "CHEMIST'S LIBRARY" Series

PRICE 5/- POST FREE 5/4

This book is of practical value to Chemists, their Assistants and Apprentices because it provides useful information often required in a hurry—and it eliminates possibility of error. Buy your copy at the present low price. Your usual wholesaler can supply or you can obtain a copy by return of post by sending remittance direct to

**THE CHEMIST & DRUGGIST**

28 ESSEX STREET, STRAND, LONDON, W.C.2

A New Edition of

# THE CHEMIST'S DICTIONARY of SYNONYMS

Incorporating 'Rouse's Synonyms'

The new edition, incorporating the best features of these two well-known books, contains thousands of synonymous terms and covers a larger area and is more complete than anything hitherto published.

No other book contains such a wide selection of technical words of this kind. It will be found to contain all that is likely to be required in daily pharmaceutical practice.



## SITUATIONS OPEN

## RETAIL (HOME)

**LONDON, W.I.**—Assistant required—Qualified or Unqualified—please give full particulars of age, experience, salary required, enclosing copies of references, etc. CDB/425, London Office of this Paper.

**SOUTH OF ENGLAND.**—Several Vacancies occur for Qualified Relief Staff with Timothy Whites & Taylors, for duty in the South of England. Applicants engaged will be initiated into the Company's methods and later considered for Branch Managements. Apply, giving full particulars, to Timothy Whites & Taylors, Ltd., Retail Drug Dept., Claremont Barn, Claremont Lane, Esher, Surrey.

**ASSISTANT** required, accustomed to good-class Dispensing business. Qualified or Unqualified. Apply, stating full particulars in first instance. T. G. Stewart, Chemist, Bracknell.

**CAPABLE** and trustworthy Assistant required soon as can be arranged for medium-class business in Croydon area; interview if practicable. Full particulars, age, experience, salary, references. Beale & Son, Chemists, High Street, South Norwood, S.E.25 (Lid 2310).

**CHARLES JENKIN & SON**, 86 Lower Bristol Road, Bath, require a Qualified Chemist and Optician to manage the Optical Department. Over 40. Good salary and share of profits. Must be good refractionist.

**EXPERIENCED** Counter Assistant required for Drug Department. Male or female. Write, giving age, experience and salary required, to "D." Staff Office, Welwyn Stores (1929), Ltd., Welwyn Garden City, Herts.

**LADY** Dispenser Book-keeper required for East London Multiple Chemist. Apply, D. Desmond & Co., Ltd., 55 Freemasons Road, Custom House, London, E.16.

**LADY** Assistant required, Unqualified, permanency. Good saleswoman and window-dresser with knowledge of dispensing. Full particulars as to experience, age, salary required and photo if convenient. Philip Dawson, 309 London Road, Croydon.

**LADY** Assistant, newly Qualified, for Retail and Dispensing. Please state experience, reference, and salary, in application to John Gower, Chemist, 14 Vaughan Street, Llanelly, Carmarthenshire.

**PHARMACY.**—Qualified Assistant, male or female. Permanency. Applications in writing, stating age, full particulars of experience and salary required to Secretary, Co-operative Society, 110 Fratton Road, Portsmouth, not later than March 19, marking envelopes "Chemist." Canvassing will disqualify.

**PHARMACY.**—Experienced Female Assistant required, must have had pharmaceutical and general shop experience. Widows and single persons only considered for this position, which carries trade union rate of wages, sickness and holiday payment. Apply in writing, stating age and experience, to the Staff Manager, Royal Arsenal Co-operative Society, Limited, 113 Powis Street, Woolwich, S.18. Endorse envelope "Pharmacy."

**QUALIFIED** Lady Assistant wanted for country district in Essex. Please state age, experience, salary, etc., when applying. CDB/417, London Office of this Paper.

**QUALIFIED** Lady required for Branch. No duty on early closing or Sunday. Apply Paterson, Chemist, 31 The Parade, Claygate, Surrey.

**QUALIFIED** Assistant required. Efficient Dispenser for middle-class business with busy N.H.I. dispensing. T. Newey, 560 Green Lane, Small Heath, Birmingham.

**THE** Failsforth Industrial Society, Ltd., require Unqualified Male Assistant, with general shop and dispensing experience; also Unqualified Female Assistant, with pharmaceutical and general shop experience. Apply, in writing, stating age, experience and salary required to Managing Secretary, 9 Church Street, Newton Heath, Manchester, 10.

**UNQUALIFIED** Assistant required, lady or gentleman (exempt from military service), for busy middle-class pharmacy in neutral area, Staffordshire, for quick counter-trade and occasional dispensing. Replying, please state age, salary required (no living accommodation) and enclose reference and, if possible, photograph. 378/805, London Office of this Paper.

**UNQUALIFIED** Assistant, male, ineligible for military duties, for first-class Retail and Dispensing business. Apply with full details in first letter. Balkwill & Co., Chemists, 106 Old Town Street, Plymouth.

**UNQUALIFIED** Lady Assistant wanted immediately, safe area. Apply, with full particulars and copy references, to W. D. Smart, 18 London Road, Hemel Hempstead, Herts.

**UNQUALIFIED** Junior Assistant required immediately, good Dispenser and Counter-work. Apply, with full particulars, age, experience and salary required. Beal, 446 Rochdale Road, Manchester, 9.

**YOUNG** Qualified Assistant required for Dispensing, ment to commence duties at once. Full particulars first letter. J. R. Cave (1922), Ltd., 52 Nevill Street, South

**WANTED**, Junior Improver for Dispensing and Photography. Allen & Lloyd, Ltd., Fleet, Hants.

**WANTED**, Young Unqualified Assistant, used to a hi business. Must be energetic and a good time CDB/420, London Office of this Paper.

## WHOLESALE

**ASSISTANT** required in chemical warehouse to manage special ointment. Please give full particulars, first age, qualification, experience, salary required, exempt service. 378/825, London Office of this Paper.

**BUYER** required for Fine Chemical Manufacturers in London area. Apply, giving full particulars and experience to CDB 391, London Office of this Paper.

**CITY** firm of Manufacturing Chemists require Office (Female), for invoicing and general work. Reply all particulars of experience, age, and wages required. London Office of this Paper.

**GENTLEMAN** or Lady Chemist with full knowledge of Creams, Emulsions, Beauty Preparations, Ointments, Lipsticks, required by high-class Cosmetics firm for work, improving existing formulae, and studying new inventions. Preference will be given to candidates with actual experience. Good position assured for right person. Applying, state age, past experience, initial salary (if male, particulars of military position). The selected candidate may be required to reside, for the duration of the war, in the country. 378/816, London Office of this Paper.

**INVOICE** Clerk required for London Wholesale Dispensing. Write, stating experience, etc. 365/381, London Office of this Paper.

**LABORATORY** Assistant required, experienced in the facturing of Pharmaceuticals. Apply stating age, experience and full particulars of previous experience. Ltd., The Laboratories, Horsham, Sussex.

**PHARMACEUTICAL** Assistants. Qualified men, aged 21 and over, required at once to take charge of Medical and Surgical Departments in London (West End), Blackpool, Ches Barnsley. Permanent positions with prospects. Reply all age, details of qualifications, experience, and salary required to 378/817, London Office of this Paper.

**PRICING** and Reference Clerk, experienced or would be, man with retail experience. Gale Baiss & Co., Wholesale Druggists, 274-276 Ilderton Road, S.E.15.

**QUALIFIED** Chemist to control Drug department in connection with Surgical Instrument business. Mainly medical sale trade and little counter work. Yorkshire. Apply full particulars as to age, salary expected, experience, to London Office of this Paper.

**REPRESENTATIVE** WANTED in all areas with established connexion amongst Chemists and Stores. Part those supplying locally stationed units of H.M. Forces. Line especially applicable. Only applicants with best retail and honest selling record need apply. Generous commission and part expenses discussed. CDB/415, London Office of this Paper.

**STOCK-ROOM** Assistants. Men wanted for Stock-room and Manufacturing Chemists. Applicants should be from military service and should have knowledge of the trade. The posts are progressive and offer good prospects of ability. Apply personally or by letter to R. Burroughs Wellcome & Co., 67 Holborn Viaduct, E.C.

**TABLET** Maker required, Improver, under military exemption, by manufacturer in the Midlands. Write age, experience, and salary required. 378/819, London Office of this Paper.

**TABLET** Maker and Sugar Coater wanted for London Wholesale Druggists. 365/382, London Office of this Paper.

**WANTED**, Representative for Midland Drug House, be willing to do inside work part time, with the experience to do so. Apply, full details, to CDB/424, London Office of this Paper.

**WAREHOUSEMAN** required by London Chemical Manufacturers. Some experience of Ointment manufacture and an advantage. State full particulars and wages required. 378/822, London Office of this Paper.

## MISCELLANEOUS

**PRE-WAR** list price plus one-third offered for popular rouges, lipsticks and Xmas coffrets. Saccharin in any quantity, large or small—purchased at 7s. 6d. 1 lb. (full strength), or 5s. per 1,000 (half strength). Shelley, Caldmore, Walsall.



## SITUATIONS WANTED

### RETAIL (HOME)

**A** QUALIFIED Chemist-optician desires berth, in single or dual capacity. Sea coast area only, over military age. Nuttall, M.P.S., F.S.M.C., F.I.O. (Regobae, JCQO), c/o 223 Devonshire Avenue, Southsea, Hampshire.

**L**ADY Assistant, Unqualified. Experienced high-class Toilets and general Retail. CDB/423, London Office of this Paper.

**L**ADY Dispenser Book-keeper (Hall), over 20 years' experience Hospital and Private, desires change. "Dispenser," 9 Cedar Road, Darlington.

**Q**UALIFIED (31), all-round experience, moderate salary, free immediately, S.E. districts preferred but not essential. CDB/411, London Office of this Paper.

### LOCUMS SEEKING ENGAGEMENT

**Q**UALIFIED Lady, experienced, requires part-time locum work, Poole, Bournemouth districts; 10 years' managership. London. "G," 1 Gorschill Road, Poole, Dorset.

**L**OCUM or temporary engagements (39), Chemist and Optician, thoroughly experienced and well recommended; disengaged March 22. Hodge, c/o Mr. Hitchings, Chemist, Shaftesbury, Dorset. 'Phone: Shaftesbury 86.

### WHOLESALE

**N**ORTHERN Ireland.—Chemist, exempt, own car, live connexion Chemists, Stores, wishes to hear from firms requiring active and conscientious representation on this ground. Drugs, Proprietaries, Packed Goods, Dressings. Commission and expenses basis. CDB/421, London Office of this Paper.

### BABY KNICKERS

Baby Knickers, waterproof, direct mfrs., Price 10/6 per doz., 114/- per gross. Super double strength quality. Price 13/6 per doz., 156/- per gross. Excel durable glossed oil-silk, Price 16/- per doz., plus Purchase Tax 5/4. All the above supplied in medium and large sizes. Small sizes can be had if requested. Terms cash with order. Prompt delivery. SERVICE RUBBER-WEAR CO., Oaklands, Heathside Crescent, Woking, Surrey. 'Phone: Woking 712.

## FOR SALE

**A**VERY slot personal Weighing Machine: mahogany Show-cases and other Furniture for sale at Bexhill. Liquidator (M. & D.), 69 Cannon Street, London, E.C.4.

**SENNA.** If you are interested in Alexandrian or Timnevelly leaves or pods you will not regret placing your inquiries with us. Also several pairs Palm Beach Sun Glasses, Crookes lenses. Write CDB/383, London Office of this Paper.

## WANTED

**G**LUCOSE Powder, any quantity purchased up to 10 cwt. Saccharin 550, and Saccharin Tablets. State quantities and price. Edwards, 10a Reddish Road, S. Reddish, Stockport.

**O**ILS and Fats of all descriptions wanted, also Glycerine (refined and unrefined) and stearates. Write, 7 Addison Road, London, W.14.

**P**URE Glycerine, 1-260 B.P. for essential industries, also Vegetable Waxes in 1-cwt. lots upwards. T. Webster & Co., Ltd., 2 Tariff Street, Liverpool, 5.

**R**EQUIRED, supply powdered red squill. State price and quantity available. 378/824, London Office of this Paper.

**T**O CHEMISTS.—Padutin Wanted by Cox, 3 Princes Road, St. Leonards-on-Sea.

**W**ANTED, Tablet machinery, any make or size. Write stating full particulars, including price. 378/820, London Office of this Paper

**W**ANTED, Velox or Selo Gaslight and Commercial Postcards for cash. Large or small lots. Details to CDB/422, London Office of this Paper.

### WANTED FOR CASH

All makes of modern cameras and accessories. Also films, both in and out of date. We buy complete stocks or singles. Write in, stating full particulars of what you have to offer. (New and/or shop soiled). We particularly want 120 Panchromatic films and 35 mm. ditto. Also Bantam cameras and films. Cyril Howe, Bath.

**W**ANTED urgently, Ilford Tonelle Postcards. Advertiser is a purchaser of any quantity boxes of 100's. Any surface. High prices paid. 378/821, London Office of this Paper.

## BUSINESSES FOR DISPOSAL

**T**ORQUAY.—Good old-established Chemist's business; commodious accommodation; good position; increasing turnover; good lease. For further and full particulars, apply Parkin S. Booth, Kimberley House, Holborn Viaduct, London.

**M**ODERN Pharmacy for Sale, in good residential neighbourhood, S.E. No immediate opposition; 15 years' standing; moderate rental. Stock and fittings at valuation; goodwill £350. Offers invited. Write Mr. Merriek, 19 Firs Avenue, Muswell Hill, N.10.

## AGENCY

**T**RAVELLER, well introduced Chemists and Stores also Grocers, requires side lines selling in large quantities against commission or on own account. Send full particulars to Walton, 57 Inverness Terrace, London, W.2.

## LATE NEWS

**Death.**—GILMOUR.—At 96 Hillway, London, N.6, on March 10, Mr. James Pinkerton Gilmour, M.P.S., formerly editor of the "Pharmaceutical Journal," Cremation at Golders Green, March 15, at 11.30 a.m.

**Economy in Drugs.**—The Therapeutics Requirements Committee of the Medical Research Council has issued, as M.R.C. War Memorandum No. 3, a publication entitled "Economy in the Use of Drugs in War-time" (H.M. Stationery Office, 3d.). An appendix gives a list of drugs of which production within the British Empire should be encouraged. The drugs included are classified as in former lists, with suggestions for substitutes or equivalents.

**Supply Restrictions Removed.**—The Board of Trade has issued a general licence authorising any person registered under the Limitation of Supplies (Miscellaneous) (No. 5) Order, 1940, in any of the specified classes, to supply without limitation, as from March 10, the following articles:—*In Class 1:* Abdominal belts specially designed solely for use in hernia, sacroiliac disease, spinal abnormality and enuresis. *In Class 3:* Surgical elastic stockings, knee caps, anklets and leggings, not containing silk; stump socks. *In Class 8:* Earthenware designed primarily for use in nursing.

**Compensation Following Industrial Reorganisation.**—Replying to a question by Mr. Cary in the House of Commons on March 11 the President of the Board of Trade (Mr. Lyttelton) stated that the firms enabled by industrial concentration to work to capacity are expected by the Government to provide a measure of compensation for firms that are closed down. The Minister of Labour and National Service was anxious that all possible assistance should be given so that workers now transferred to munitions work might return to their former employment after the war, and for this purpose records would be kept of workers transferred through the concentration of the less essential industries. He did not, however, think it practicable to place statutory obligations for reinstatement on the employers to whom they were transferred for war work.

### Information Wanted

DSP/2. Suppliers of vulcanite douche fittings.



## ARE YOU UNEMPLOYED AS A DIRECT RESULT OF THE WAR ? IF SO, READ THIS

In order to assist employees who have lost their employment, either through enemy action or through businesses being closed down in defence areas, a scheme of free advertisements in the "Situations Wanted" column of this Supplement will be available until further notice.

Any such employee of a retail pharmacist, whether qualified or not, or any employee of works producing or distributing products in connexion with the drug and associated industries is invited to make full use of this facility without charge.

Advertisements should be accompanied by particulars of last employment and cause of its termination, and should be addressed to The Publisher, The Chemist and Druggist, The Pitman Press, Bath, to arrive not later than WEDNESDAY morning of week of issue.

### WAR-TIME UNEMPLOYMENT SITUATIONS WANTED

The advertisements in this section are inserted free and are from advertisers who have lost their employment as a direct result of the war.

Prospective employers are requested to give them special consideration.

*Advertisers in this Section should advise us immediately employment has been secured.*

#### RETAIL

**B**IRMINGHAM district preferred. Advertiser, over military age, thoroughly experienced retail, wholesale, medical and institutional dispensing, good appearance and address, excellent references, reasonable salary. Bombed out of last billet. Free now. CDB/364, London Office of this Paper.

**L**ADY Dispenser (Hall) requires post. Good experience. South-Central England or Home Counties preferred. Apply Dispenser, 84 Embleton Road, Lewisham, S.E.13.

**M**ANAGER qualified (58) requires post in high-class pharmacy, thoroughly experienced, London preferred. Disengaged owing to enemy action. CDB/390, London Office of this Paper.

**Q**UALIFIED (36) desires position of trust, 12 years managing in London, capable all-round man and business builder. Yorkshire preferred. CDB/409 London Office of this Paper.

#### WHOLESALE

**A**N Active Representative is vacant owing to enemy's action; all-round experience of pharmacy; orders awaiting a reliable firm. A connexion of over twenty years in Midlands, part Eastern Counties, amongst Chemists, Beauty Saloons and Stores; car owner; exempt military service. "Recini," "St. Moritz," Wellington Road, Mablethorpe, Lincs.

**A**NALYTICAL Chemist, Ph.D., above military age, friendly alien on Central register, many years' experience in manufacturing, distributing, publicity of medical proprietary lines, last five years manager of manufacturing private company, offers services in any capacity. Excellent references. 377/791, London Office of this Paper.

**L**ADY (26), Czech degree as dispensing chemist, desires post, preferably Laboratory Assistant, research work. Three years' continental experience. Sound chemical knowledge. Apply, Zella Mayer, 9 Woodstock Street, Oldham.

**R**EPRESENTATIVE (55), disengaged owing to enemy action. Thirty years' experience calling on Chemists, Hairdresser Stores, and Wholesale. London, South Coast, and Home Counties. Very active, car driver. CDB 392, London Office of this Paper.

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